L. R. Profile & Deck

J Readhead & Sons

No. 527 reference No. 539. ✓

REF EMPIRE GREY now BURHILL

L R Pro & Dk.
539.

002743-002749-0008

LLOYD LONDON STAMP
12TH JUNE 1941

539. L.R. ORIGIN

Nº 527.

PROFILE & DECKS PLAN.

DIMENSIONS AS PER RULE.
LENGTH B.P. — 400·00'
BREADTH MLD — 53·29'
DEPTH MLD — 35·87.'
CLASS 100 A.I. ✠ WITH FREEBOARD
SCALE 1/8" = 1 FOOT.

WITH THE SCANTLINGS AMENDED SUITABLE FOR A DRAFT OF 18" IN EXCESS OF THAT CORRESPONDING TO THE FREEBOARD WHICH COULD BE ASSIGNED TO THE VESSEL WITH A TONNAGE OPENING.

PARTICULARS FOR FREEBOARD.

96% OF LENGTH INCLUDING CRUISER STERN		398·9'
LENGTH BETWEEN PERPENDICULARS		400·00'
BREADTH MOULDED	(53'-3½")	53·29'
DEPTH MOULDED TO 2ND DECK	(27'-4½")	27·38'
85% OF MOULDED DEPTH	(23'-3¼")	23·28'
MOULDED DISPLACEMENT @ 85% OF MLD DEPTH		10840T
COEFFT OF FINENESS " " " "		·765.
APPROXIMATE TONS PER INCH		43·5
ROUND OF BEAM		12½"

SCANTLINGS; CLASS 100 A.I. ✠ WITH FREEBOARD } SEE NOTE UNDER HEADING.
SHEER – AFTER SIDE OF STERN POST = 4'-2" } SHEER CURVE PARABOLIC
" FORE PERPENDICULAR = 9'-0"
TWEEN DKS 8'-6" HIGH – STANDARD 7'-6"

NOTE:- SHEER AT FORE END SPRUNG UP AN EXTRA 10" OVER THE ABOVE GIVING 9'-10" AT FORE PERP DLR

CENTRE LINE BULKHEAD IN HOLDS.
DETAILS OF HATCH END BRACKETS & CONNECTIONS TO DOUBLE BULB ANGLE STIFFENERS AT ALL 2ND DK HATCH ENDS.
SCALE 3/8" = 1 FOOT.
FORE & AFT ELEVATION.
ATHWARTSHIP ELEVATION.
TANK
TOP
DETAIL OF No3 HATCH SIDE GIRDERS. (2ND DECK.)
ABAFT 96 BHD.
FOR'D 98 BHD.
CENTRE LINE BULKHEAD IN HOLDS.
DETAIL OF HATCH END BRACKETS & CONNECTIONS TO DOUBLE CHANNEL STIFFS ON FRAMES 110 & 126.
MASTS, WINCHES, WINDLASS, STEERING GEAR ETC SUPPORTED TO SURVEYORS SATISFACTION.
DETAIL OF CONNECTION OF HATCH SIDE GIRDERS & W.T. BHD. TO BE SUBMITTED WITH BULKHEAD PLAN.
ACCOMMODATION.
STEERING ENGINE
CREW ACCOMMODATION
AFTER PEAK
TUNNEL RECESS.
CRUISER STERN
UPPER DECK
SECOND DECK
SHAFT TUNNEL
THRUST RECESS
ENGINES.
BOILERS.
COAL SHOOT
GALLEY
SALOON HOUSE
PROVISION STORE
DEEP FLOORS AT ALL W.T. BHDS
CHAIN LOCKER
FORE PEAK W.B. TANK
W.B.
FEED
DRY
CR GIRDER INTERCOSTAL BETWEEN DEEP FLOORS.
CENTRE GIRDER WATERTIGHT
FRAMES 24" APART
FRAMES 30" APART
FRAMES 27" APART
UPPER DECK.
HATCH 27'-6" × 22'-0"
HATCH 30'-0" × 22'-0"
HATCH 30'-0" × 22'-0"
HATCH 29'-3" × 22'-0"
MAST HOUSE
ENGINEERS ACCOMMODATION
DOUBLINGS AT CORNERS OF DECK OPENINGS WELDED TO DECK.
SECOND DECK.
CREW ACCOMMODATION (BITUMASTIC)
PROVISION STORE
HATCH
7 × 3 × ·33 B.A. N.B.S
35" × ·34

JOHN READHEAD & SONS LTD
SHIPBUILDERS & ENGINEERS.
SOUTH SHIELDS.

SIGNED

3 B+W LLOYDS. 535 6/

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L. R. Midship Section

J Readhead & Sons

No 527 reference No. 529. ✓

REF. EMPIRE GREY now BURHILL

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Lloyd's Register
Foundation

L R Section
529

002743-002749-0009

539. L.R. ORIGINAL APPROVAL.

Nº 527.
MIDSHIP SECTION.

DIMENSIONS AS PER RULE.

LENGTH B.P. .... 400·00'
BREADTH MLD. .... 53·29'
DEPTH MLD. .... 35·87'

CLASS ✠ 100 A.1. "WITH FREEBOARD"

WITH SCANTLINGS AMENDED SUITABLE FOR A DRAUGHT OF 18" IN EXCESS OF THAT CORRESPONDING TO THE FREEBOARD WHICH COULD BE ASSIGNED TO THE VESSEL WITH A TONNAGE OPENING.

SCALE ½" = 1 FOOT.

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NUMERALS

"D" FOR NUMERALS = 35·37; FOR PROPORTIONS = 35·87.

D = 35·37
L = 400
14148 = FIRST Nº

53·29
35·37
88·66
400
35464 = SECOND Nº

L/D = 400/35·87 = 11·15

"d" = 23·33

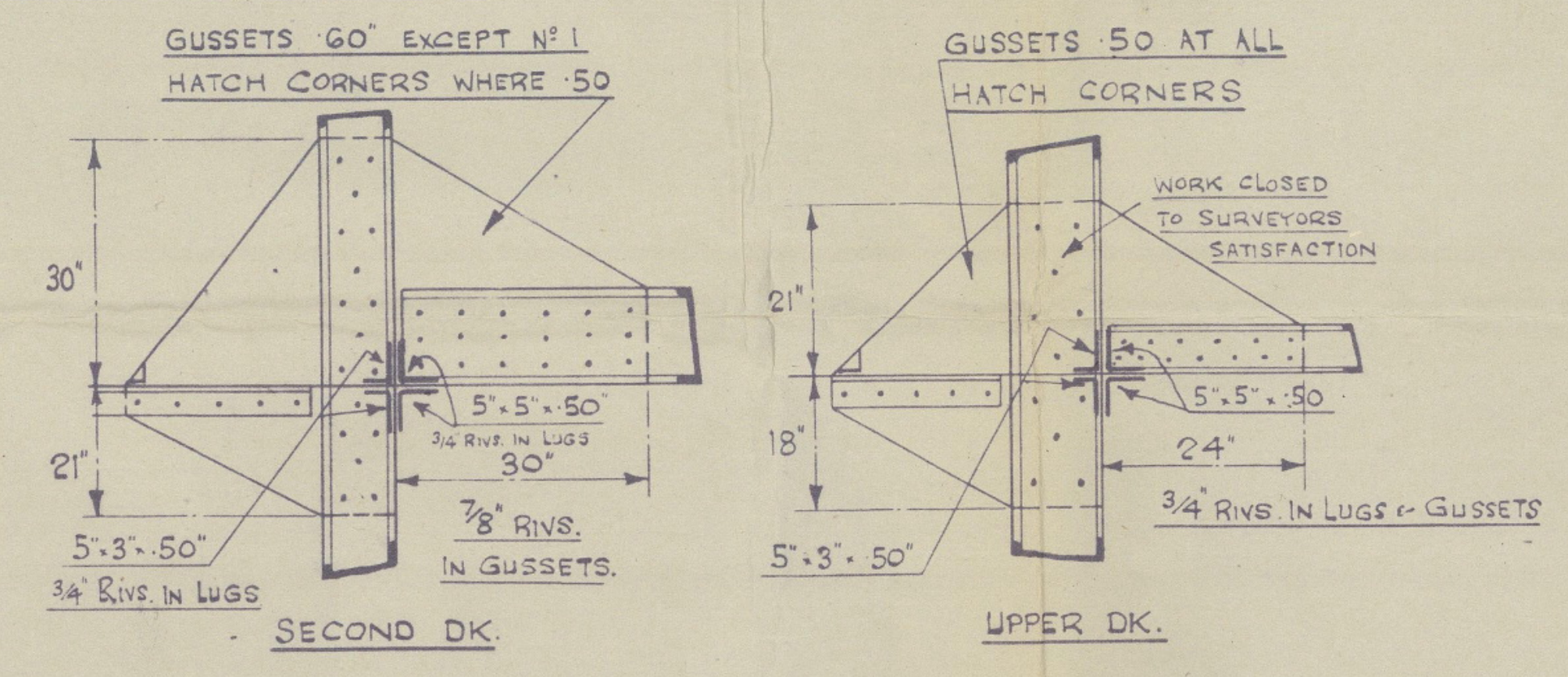
EQUIPMENT Nº 36,158 (LETTER "Z")

3 BOWER ANCHORS (STOCKLESS) {2 @ 63¾ CWT. / 1 @ 54½ CWT} COLL. WEIGHTS 182 CWTS
1 STREAM ANCHOR 17½ CWTS. (EX. STOCK)
225 FMS. 2 4/16" STUD LINK CHAIN CABLE
90 FMS. 4¾" STEEL WIRE STREAM (6/12 F.S.W.R.)
120 FMS. 5" " " TOWLINE (6/12 F.S.W.R.)
HAWSERS & WARPS {2 @ 90 FMS. 2¾" STEEL WIRE ON REEL (6/12 F.S.W.R.) / 2 @ 90 FMS. 2½" " " " " (6/12 F.S.W.R.)}

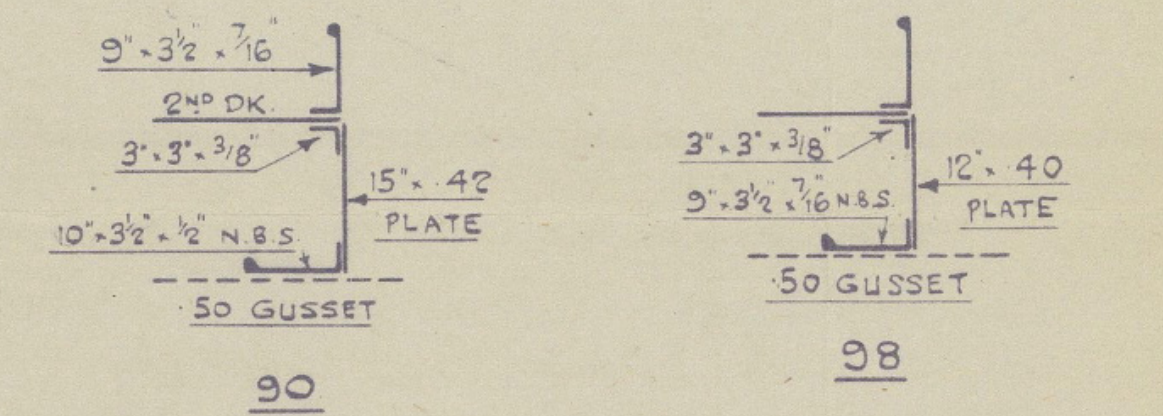
SEE LETTER

L × (B+D) = 400(53·29 + 35·87) = 35664
POOP DK. HOUSE = 35 × 7·5 ÷ 2 = 131
ENGINEERS HOUSE = 69 × 7·5 ÷ 2 = 259
SALOON HOUSE = 27 × 7·75 ÷ 2 = 104
EQUIPMENT NO. = 36158

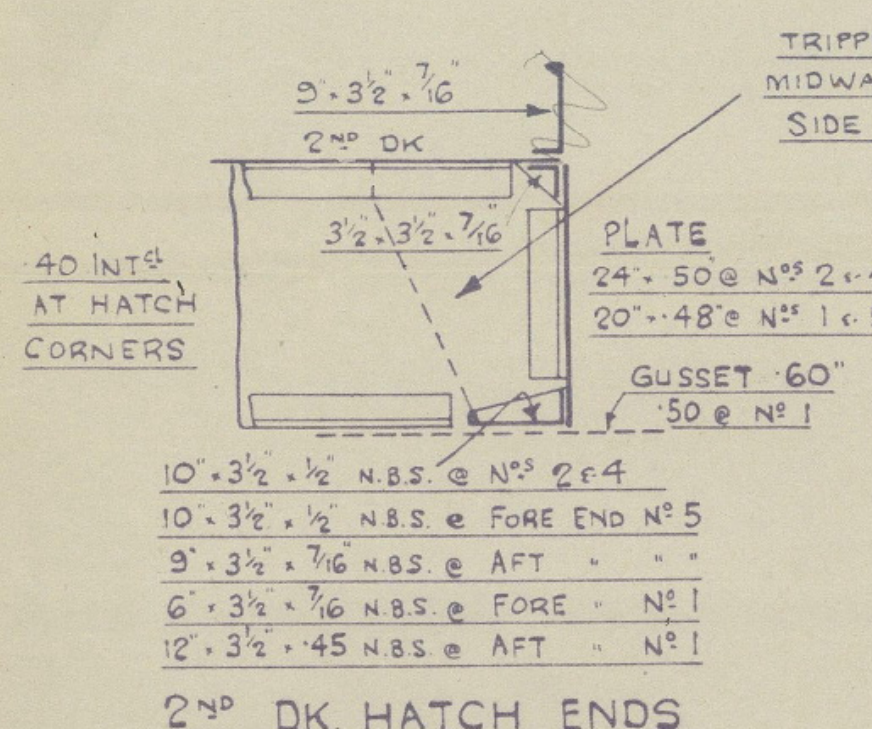
LLOYDS LONDON STAMP
12 JUNE 41


GUSSETS ·60" EXCEPT Nº 1 HATCH CORNERS WHERE ·50
30"
21"
5"×5"×·50"
¾" RIVS. IN LUGS
30"
⅞" RIVS. IN GUSSETS.
5"×3"×·50"
¾" RIVS. IN LUGS
SECOND DK.
GUSSETS ·50 AT ALL HATCH CORNERS
WORK CLOSED TO SURVEYORS SATISFACTION
21"
18"
5"×5"×·50
24"
¾" RIVS. IN LUGS & GUSSETS
5"×3"×·50"
UPPER DK.

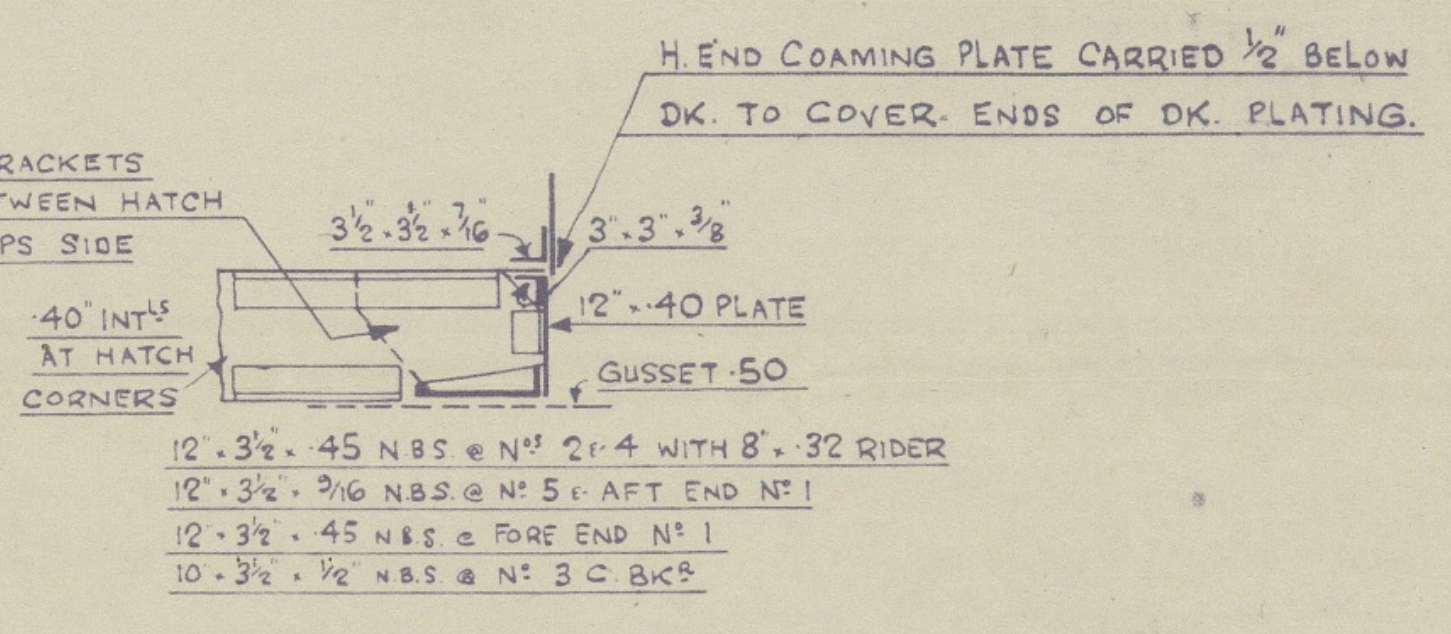
DETAILS OF GUSSET PLATES AT UPPER & 2ND DK. HATCH CORNERS



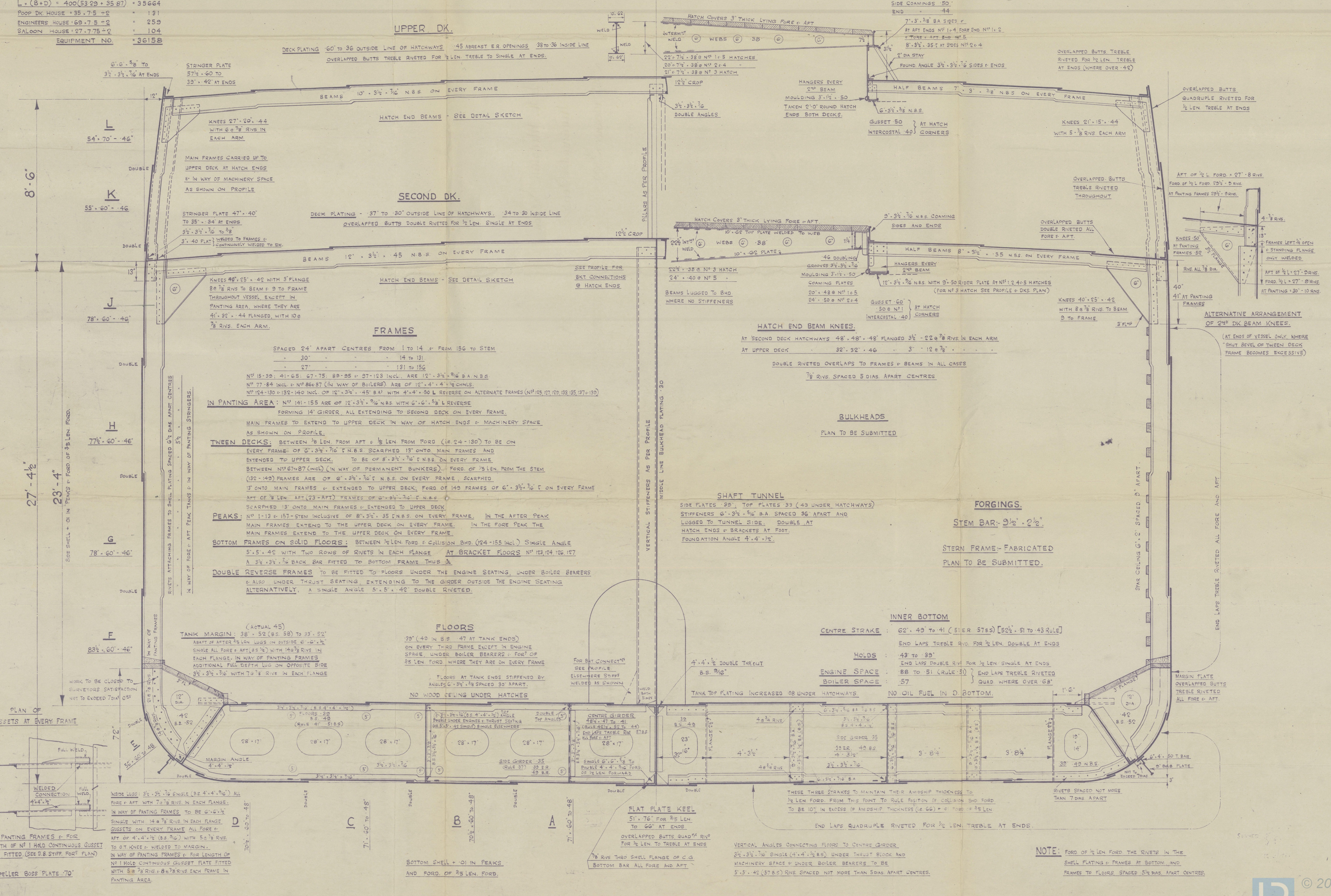
2ND DK. CROSS BUNKER HATCH ENDS.


9"×3½"×7/16"
2ND DK
TRIPPING BRACKETS MIDWAY BETWEEN HATCH SIDE & SHIPS SIDE
3½"×3½"×7/16"
·40 INTLS AT HATCH CORNERS
PLATE
24"×·50 @ Nos 2 & 4
20"×·48 @ Nos 1 & 5
GUSSET ·60"
·50 @ Nº 1
10"×3½"×½" N.B.S. @ Nos 2 & 4
10"×3½"×½" N.B.S. @ FORE END Nº 5
9"×3½"×7/16" N.B.S. @ AFT " "
6"×3½"×7/16" N.B.S. @ FORE " Nº 1
12"×3½"×·45 N.B.S. @ AFT " Nº 1

2ND DK. HATCH ENDS


H. END COAMING PLATE CARRIED ½" BELOW DK. TO COVER ENDS OF DK. PLATING.
3½"×3½"×7/16"
3"×3"×3/8"
·40" INTLS AT HATCH CORNERS
12"×·40 PLATE
GUSSET ·50
12"×3½"×·45 N.B.S. @ Nos 2 & 4 WITH 8"×·32 RIDER
12"×3½"×9/16 N.B.S. @ Nº 5 & AFT END Nº 1
12"×3½"×·45 N.B.S. @ FORE END Nº 1
10×3½"×½" N.B.S. @ Nº 3 C. BKR

UPPER DK. HATCH ENDS


6"·6"×5/8" TO 3½"·3½"×7/16" AT ENDS
STRINGER PLATE 57½"×·60 TO 39"×·42" AT ENDS
12"
BEAMS 10"×3½"×7/16" N.B.S. ON EVERY FRAME
KNEES 27"×20"×·44 WITH 6 @ ⅞" RIVS IN EACH ARM
HATCH END BEAMS - SEE DETAIL SKETCH
L
54"×70"-·46"
8'-6"
DOUBLE
K
55"×·60"-·46
STRINGER PLATE 47"×·40" TO 35"×·34" AT ENDS
3½"·3½"×7/16" TO 3/8"
3"×·40 FLAT } WELDED TO FRAMES & CONTINUOUSLY WELDED TO DK.
DOUBLE
13"
BEAMS 12"×3½"×·45 N.B.S. ON EVERY FRAME
6"
J
78"×·60"-·46"
HATCH END BEAMS - SEE DETAIL SKETCH
SEE PROFILE FOR BKT. CONNECTIONS @ HATCH ENDS
H
77½"×·60"-·46"
27'-4½"
23'-4"
SIDE SHELL + ·01 IN PEAKS & FORD. OF ⅗ LEN. FORD.
RIVETS ATTACHING FRAMES TO SHELL PLATING SPACED 6½ DIAS. APART CENTRES
5½
IN WAY OF FORE & AFT PEAK TANKS & IN WAY OF PANTING STRINGERS.
G
78"×·60"-·46"
F
83½"×·60"-·46"
IN WAY OF PANTING FRAMES
WORK TO BE CLOSED TO SURVEYORS SATISFACTION NOT TO EXCEED 7 DIAS CRS
21 @ ⅞ RIVS.
14 @ ⅞ RIVS.
3" FL
12" DIA.
·42 B.S. ·52
72"
E
56"×60" TO ·48
MARGIN ANGLE 4"×4"×½"
DOUBLE
PLAN OF GUSSETS AT EVERY FRAME
FULL WELD.
WELDED CONNECTION 4"×4"×½"
FULL WELD.
3½"·3½"×7/16" (B.S. 4"×4"×½")
FLOORS ·39 B.S. ·49 (RULE ·41" ·51 B.S.)
28"×17"
5"
3½"·3½"×7/16"
3½"×3½"×7/16"
3½"·3½"×7/16" (B.S. 4"×4"×½") TOP ANGLE
DOUBLE UNDER ENGINES & THRUST SEATING (OR 5"·5"·42 SINGLE) SINGLE ELSEWHERE
DOUBLE TOP ANGLES
3"·3"·3/8
8.S. 3½"·3½"·7/16
SIDE GIRDER ·35 (RULE 37) 39 E.R. ·49 B.R.
CENTRE GIRDER 48½"×·47 TO ·41 (RULE 42½"×·52 TO ·44) ·57 B.S.
END LAPS TREBLE RIVD ALL FORE & AFT
SINGLE 6"·6"×5/8 TO DOUBLE 4"×4"×9/16" FORD. OF ½ LEN. FORWARD
DOUBLE
D
70½"×·60" TO ·48
C
71"×·60" TO ·48
B
70½"×·60" TO ·48
A
71"×·60" TO ·48
PILLARS AS PER PROFILE
10"×·62
WELD
HATCH COVERS 3" THICK LYING FORE & AFT
INTERMNT WELD
WEBS 6" ·38
7½"
22" & 7½"×·38" @ Nos 1 & 5 HATCHES
20" & 7½"×·38" @ Nos 2 & 4 "
21" & 7½"×·38 @ Nº 3 HATCH
12½" CROP
3½"×3½"×7/16 DOUBLE ANGLES
SIDE COAMINGS ·50
END " ·44
7"×3"×3/8" B.A. SIDES & AT AFT ENDS Nos 1 & 4, FORE END Nos 1 & 2 & FORE & AFT END Nº 5
8"×3½"×·35 [AT SIDES Nos 2 & 4
31½"
2" DIA STAY
FOUND. ANGLE 3½"×3½"×7/16" SIDES & ENDS
HANGERS EVERY 2ND BEAM
MOULDING 3"×1½"×·50
TAKEN 2'-0" ROUND HATCH ENDS BOTH DECKS.
6"×3½"×3/8" N.B.S.
GUSSET ·50 } AT HATCH CORNERS
INTERCOSTAL ·40
HALF BEAMS 7"×3"×3/8" N.B.S ON EVERY FRAME
OVERLAPPED BUTTS, TREBLE RIVETED FOR ½ LEN. TREBLE AT ENDS (WHERE OVER ·42)
OVERLAPPED BUTTS QUADRUPLE RIVETED FOR ½ LEN. TREBLE AT ENDS
KNEES 21"×15"×·44 WITH 5-⅞" RIVS. EACH ARM
OVERLAPPED BUTTS TREBLE RIVETED THROUGHOUT
HATCH COVERS 3" THICK LYING FORE & AFT.
10"×·62 TOP PLATE WELDED TO WEB
22½" INTMT WELD
WEBS 6" ·38
10"×·62 PLATE
11¼"
9"×3½"×7/16" N.B.S. COAMING SIDES AND ENDS
22½"×·38 @ Nº 3 HATCH
24"×·40 @ Nº 5 "
BEAMS LUGGED TO BHD WHERE NO STIFFENERS
·46 DOUBLING
GROOVES 3½"·3½"×7/16"
MOULDING 3"·1½"×·50
COAMING PLATES 20"×·48 @ Nos 1 & 5, 24"×·50 @ Nos 2 & 4
HANGERS EVERY 2ND BEAM
12"×3½"×9/16" N.B.S. WITH 9"×·50 RIDER PLATE AT Nos 1, 2, 4 & 5 HATCHES (FOR Nº 3 HATCH SEE PROFILE & DKS. PLAN)
GUSSET ·60" ·50 @ Nº 1 INTERCOSTAL ·40 } AT HATCH CORNERS
HALF BEAMS 8"×3½"×·35 N.B.S. ON EVERY FRAME
OVERLAPPED BUTTS DOUBLE RIVETED ALL FORE & AFT.
KNEES 40"×25"×·42 WITH 8 @ ⅞" RIVS. TO BEAM 9 TO FRAME
3" FLNG
RIVS. ALL ⅞" DIA.
40" 41" AT PANTING FRAMES
KNEES ·50" AT PANTING FRAMES ·52
3½" FLANGE
AFT OF ½ L. FORD. = 27" - 8 RIVS.
FORD. OF ½ L. FORD. 29½" - 9 RIVS.
AT PANTING FRAMES 29½" - 9 RIVS.
4-⅞" RIVS.
13"
FRAMES LEFT ¼" OPEN & STANDING FLANGE ONLY WELDED
AFT OF ½ L = 27" - 9 RIVS.
FORD. ½ L = 27" - 9 RIVS.
AT PANTING = 30" - 10 RIVS.
VERTICAL STIFFENERS AS PER PROFILE
MIDDLE LINE BULKHEAD PLATING ·30
SPAR CEILING 6"×2" SPACED 9" APART.
END LAPS TREBLE RIVETED ALL FORE AND AFT
FOR BKT. CONNECTNS SEE PROFILE. ELSEWHERE STIFFS WELDED AS SHOWN
WELD BOTH SIDES
4"×4"×½" DOUBLE THR'OUT B.S. 9/16"
39 B.S. 49
23"×16"
32"
FLANGE 2½"
4'-3½"
4 @ ¾ RIVS
9"×3½"×7/16" B.A.
10"×3½"×½" B.A. (B.S.)
6"×3½"×5/16 B.A. 7/16 B.S.
3½"·3½"×7/16" B.S. 4×4×½"
SIDE GIRDER ·35 39 E.R. 49 B.S. 4'-3½"
3½"·3½"×7/16"
6"×3½"×7/16" B.A.
6"×3½"×5/16" 7/16" B.S.
3'-8¼"
1'-6"
3" FLANGE
12" DIA.
·42 B.S. ·52
19"×14"
39 ·49 IN B.S.
6"×4"×·50 T. BAR
9" BULB PLATE
NOT TO EXCEED 7 DIAS.
3"
MARGIN PLATE OVERLAPPED BUTTS TREBLE RIVETED ALL FORE & AFT.
RIVETS SPACED NOT MORE THAN 7 DIAS. APART

UPPER DK.

DECK PLATING ·60" TO ·36 OUTSIDE LINE OF HATCHWAYS ·45 ABREAST E.R. OPENINGS ·38 TO ·36 INSIDE LINE
OVERLAPPED BUTTS TREBLE RIVETED FOR ½ LEN. TREBLE TO SINGLE AT ENDS.

MAIN FRAMES CARRIED UP TO UPPER DECK AT HATCH ENDS & IN WAY OF MACHINERY SPACE AS SHOWN ON PROFILE

SECOND DK.

DECK PLATING - ·37" TO ·30" OUTSIDE LINE OF HATCHWAYS. ·34 TO ·30 INSIDE LINE
OVERLAPPED BUTTS DOUBLE RIVETED FOR ½ LEN. SINGLE AT ENDS

KNEES 40"×25"×·42 WITH 3" FLANGE 8 @ ⅞" RIVS TO BEAM & 9 TO FRAME THROUGHOUT VESSEL, EXCEPT IN PANTING AREA, WHERE THEY ARE 41"×32"×·44 FLANGED, WITH 10 @ ⅞" RIVS. EACH ARM.

FRAMES

SPACED 24" APART CENTRES FROM 1 TO 14 & FROM 156 TO STEM
" 30" " " " 14 TO 131
" 27" " " " 131 TO 156

Nos 15-39; 41-65: 67-75: 89-95 & 97-123 INCL., ARE 12"×3½"×9/16" B.A. N.B.S.
Nos 77-84 INCL. & Nos 86 & 87 (IN WAY OF BOILERS) ARE OF 12"×4"×4"×½" CHNLS.
Nos 124-130 & 132-140 INCL. OF 12"×3½"×·45" B.As WITH 4"×4"×·50 L REVERSE ON ALTERNATE FRAMES (Nos 125, 127, 129, 133, 135, 137 & 139)

IN PANTING AREA: Nos 141-155 ARE OF 12"×3½"×9/16" N.B.S. WITH 6"×6"×5/8" L REVERSE FORMING 14" GIRDER, ALL EXTENDING TO SECOND DECK ON EVERY FRAME.
MAIN FRAMES TO EXTEND TO UPPER DECK IN WAY OF HATCH ENDS & MACHINERY SPACE AS SHOWN ON PROFILE.

TWEEN DECKS: BETWEEN ⅛ LEN. FROM AFT & ⅕ LEN. FROM FORD (i.e. 24-130) TO BE ON EVERY FRAME OF 6"×3½"×7/16" [N.B.S. SCARPHED 13" ONTO MAIN FRAMES AND EXTENDED TO UPPER DECK. TO BE OF 8"×3½"×7/16" [N.B.S. ON EVERY FRAME BETWEEN Nos 67 TO 87 (INCL.) (IN WAY OF PERMANENT BUNKERS). FORD. OF ⅕ LEN. FROM THE STEM (132-149) FRAMES ARE OF 6"×3½"×7/16" [N.B.S. ON EVERY FRAME, SCARPHED 13" ONTO MAIN FRAMES & EXTENDED TO UPPER DECK; FORD. OF 149 FRAMES OF 6"×3½"×7/16" [ON EVERY FRAME AFT OF ⅛ LEN. AFT (23-AFT) FRAMES OF 6"×3½"×7/16" [N.B.S SCARPHED 13" ONTO MAIN FRAMES & EXTENDED TO UPPER DECK

PEAKS: Nos 1-13 & 157-STEM INCLUSIVE OF 8"×3½"×·35 [N.B.S. ON EVERY FRAME. IN THE AFTER PEAK MAIN FRAMES EXTEND TO THE UPPER DECK ON EVERY FRAME. IN THE FORE PEAK THE MAIN FRAMES EXTEND TO THE UPPER DECK ON EVERY FRAME.

BOTTOM FRAMES ON SOLID FLOORS: BETWEEN ½ LEN. FORD. & COLLISION BHD. (124-155 INCL.) SINGLE ANGLE 5"×5"×·42 WITH TWO ROWS OF RIVETS IN EACH FLANGE. AT BRACKET FLOORS Nos 123, 124, 126, 127 A 3½"×3½"×7/16" BACK BAR FITTED TO BOTTOM FRAME THUS ⅃L

DOUBLE REVERSE FRAMES TO BE FITTED TO FLOORS UNDER THE ENGINE SEATING, UNDER BOILER BEARERS & ALSO UNDER THRUST SEATING, EXTENDING TO THE GIRDER OUTSIDE THE ENGINE SEATING. ALTERNATIVELY, A SINGLE ANGLE 5"×5"×·42" DOUBLE RIVETED.

HATCH END BEAM KNEES.

AT SECOND DECK HATCHWAYS 48"×48"×·48" FLANGED 3½" - 22 @ ⅞" RIVS. IN EACH ARM
AT UPPER DECK " 32"×32"×·46 " 3" - 12 @ ⅞" " " " "

DOUBLE RIVETED OVERLAPS TO FRAMES & BEAMS IN ALL CASES
⅞" RIVS. SPACED 5 DIAS. APART CENTRES

ALTERNATIVE ARRANGEMENT OF 2ND DK. BEAM KNEES.
(AT ENDS OF VESSEL ONLY, WHERE "SHUT BEVEL OF TWEEN DECK FRAME BECOMES EXCESSIVE)

BULKHEADS

PLAN TO BE SUBMITTED

SHAFT TUNNEL

SIDE PLATES ·39"; TOP PLATES ·33 (·43 UNDER HATCHWAYS)
STIFFENERS 6"×3½"×5/16" B.A. SPACED 36" APART AND LUGGED TO TUNNEL SIDE. DOUBLE AT HATCH ENDS & BRACKETS AT FOOT.
FOUNDATION ANGLE 4"×4"×½".

FORGINGS.

STEM BAR:- 9½"×2½".

STERN FRAME:- FABRICATED
PLAN TO BE SUBMITTED.

INNER BOTTOM

CENTRE STRAKE : 62"×·49" TO ·41 (·51 E.R. ·57 B.S.) [52½"×·51 TO ·43 RULE]
END LAPS TREBLE RVD. FOR ½ LEN. DOUBLE AT ENDS
HOLDS : ·43" TO ·39"
END LAPS DOUBLE RIVD FOR ½ LEN. SINGLE AT ENDS
ENGINE SPACE : ·88 TO ·51 (RULE ·51) } END LAPS TREBLE RIVETED
BOILER SPACE : ·57 } QUAD. WHERE OVER ·68"

TANK TOP PLATING INCREASED ·08 UNDER HATCHWAYS.

NO OIL FUEL IN D. BOTTOM.

TANK MARGIN: 38"×·52 (B.S. ·58) TO 33"×·52" (ACTUAL 45)
ABAFT OF AFTER ⅗ LEN. LUGS ON OUTSIDE 6"×6"×½" SINGLE ALL FORE & AFT (B.S. ½) WITH 14 @ ⅞ RIVS. IN EACH FLANGE. IN WAY OF PANTING FRAMES ADDITIONAL FULL DEPTH LUG ON OPPOSITE SIDE 3½"×3½"×7/16" WITH 7 @ ⅞" RIVS IN EACH FLANGE

FLOORS

·39" (·49 IN B.S. ·47 AT TANK ENDS) ON EVERY THIRD FRAME EXCEPT IN ENGINE SPACE, UNDER BOILER BEARERS & FORD OF ⅗ LEN. FORD. WHERE THEY ARE ON EVERY FRAME

FLOORS AT TANK ENDS STIFFENED BY ANGLES 6"×3½"×3/8 SPACED 30" APART.

NO WOOD CEILING UNDER HATCHES

INSIDE LUGS: 3½"×3½"×7/16" SINGLE (B.S. 4"×4"×9/16") ALL FORE & AFT WITH 7 @ ⅞" RIVS. IN EACH FLANGE. IN WAY OF PANTING FRAMES TO BE 6"×6"×½" SINGLE WITH 14 @ ⅞" RIVS. IN EACH FLANGE. GUSSETS ON EVERY FRAME ALL FORE & AFT OF 4"×4"×½" (B.S. 9/16) WITH 5 @ ⅞" RIVS. TO O.T. KNEE & WELDED TO MARGIN. IN WAY OF PANTING FRAMES & FOR LENGTH OF Nº 1 HOLD CONTINUOUS GUSSET PLATE FITTED WITH 5 @ ⅞" RIVS. & 8 @ ⅞" RIVS. EACH FRAME IN PANTING AREA.

AT PANTING FRAMES & FOR LENGTH OF Nº 1 HOLD CONTINUOUS GUSSET PLATE FITTED. (SEE D.B. STIFF. FORD PLAN)

PROPELLER BOSS PLATE ·70"

BOTTOM SHELL + ·01 IN PEAKS AND FORD. OF ⅗ LEN. FORD.

FLAT PLATE KEEL

51"×·76" FOR ⅗ LEN. TO ·66" AT ENDS
OVERLAPPED BUTTS QUADRPLE RIVD FOR ½ LEN. TO TREBLE AT ENDS

⅞" RIVS THRO SHELL FLANGE OF C.G. BOTTOM BAR ALL FORE AND AFT

THESE THREE STRAKES TO MAINTAIN THEIR AMIDSHIP THICKNESS TO ½ LEN. FORD. FROM THIS POINT TO RULE POSITION OF COLLISION BHD. FORD TO BE 10% IN EXCESS OF AMIDSHIP THICKNESS (i.e. ·66) + ·01 FORD OF ⅗ LEN.

END LAPS QUADRUPLE RIVETED FOR ½ LEN. TREBLE AT ENDS.

VERTICAL ANGLES CONNECTING FLOORS TO CENTRE GIRDER 3½"×3½"×7/16" SINGLE (4"×4"×½" B.S.) UNDER THRUST BLOCK AND MACHINERY SPACE & UNDER BOILER BEARERS TO BE 5"×5"×·42 (·57 B.S.) RIVS. SPACED NOT MORE THAN 5 DIAS. APART CENTRES.

NOTE: FORD. OF ½ LEN. FORD. THE RIVETS IN THE SHELL PLATING & FRAMES AT BOTTOM, AND FRAMES TO FLOORS, SPACED 5½ DIAS. APART CENTRES.

400
-003
1200

3

Fabricated Sternframe.

J. Readhead & Sons.

No. 539. 11. 2. 43.

BURHILL EX EMPIRE GREY.

Mr Lilley
CNT.

J Readhead & Sons 539

Fab. Sternframe

3

002743-002749-0006

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT
SUNDERLAND OFFICE
4/2/43.

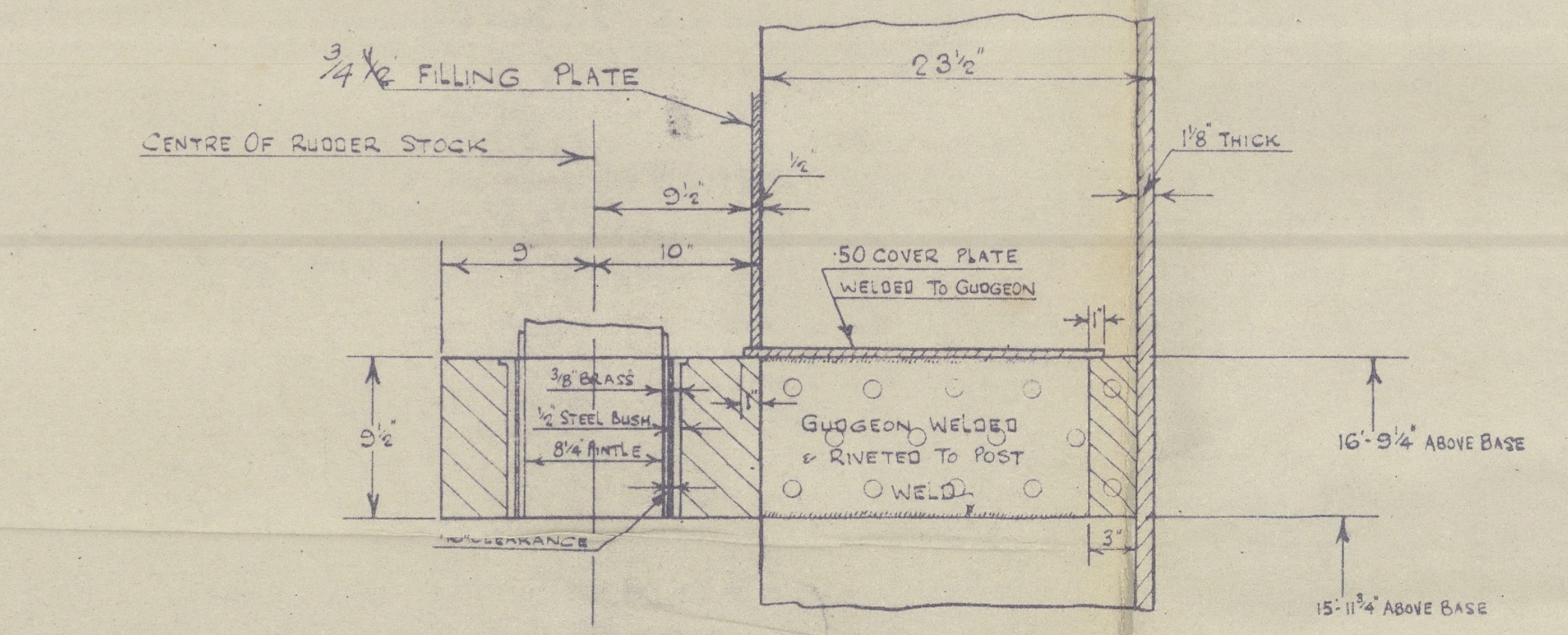
No 539.

FABRICATED STERN FRAME.

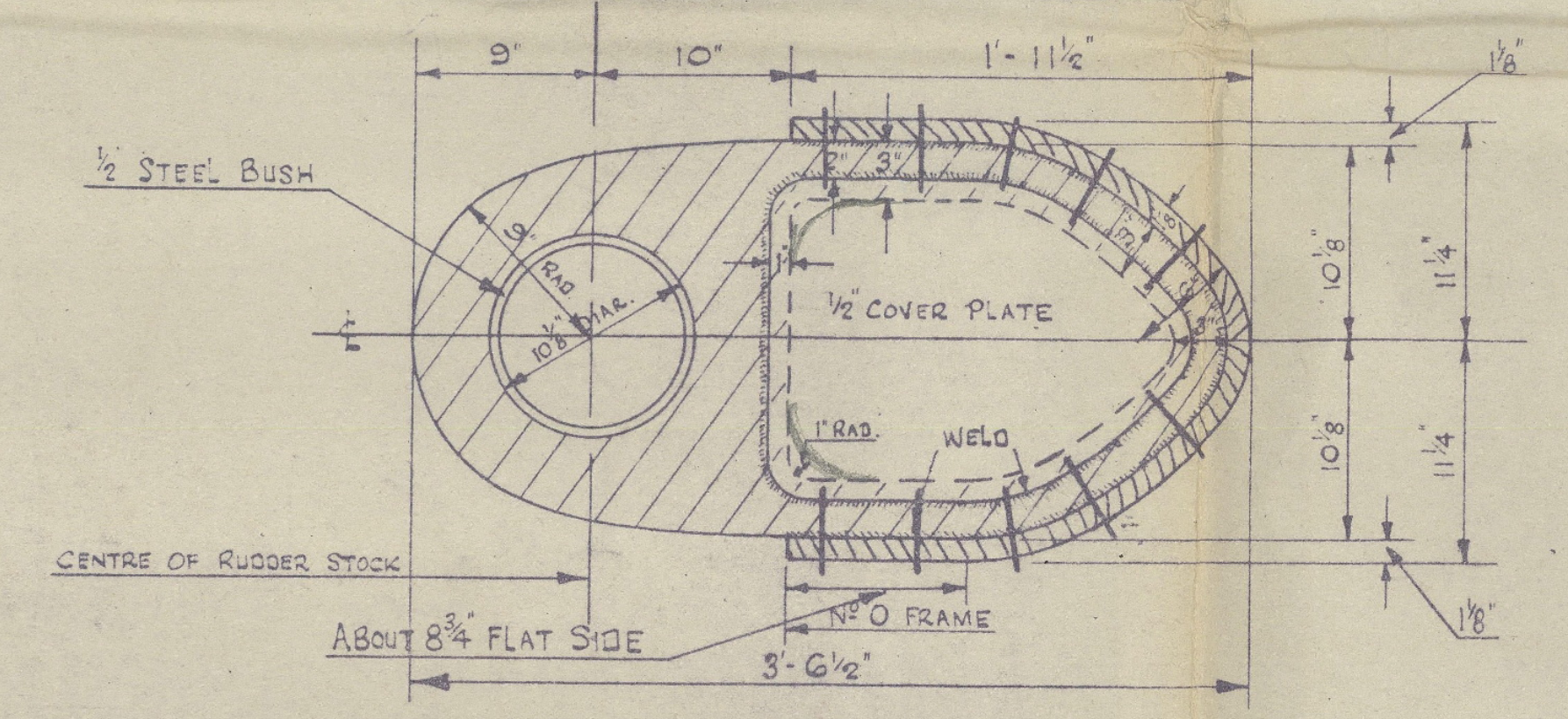
SCALE:- 1/2" = ONE FOOT.

8 FEB 1943

Approved 11.2.43

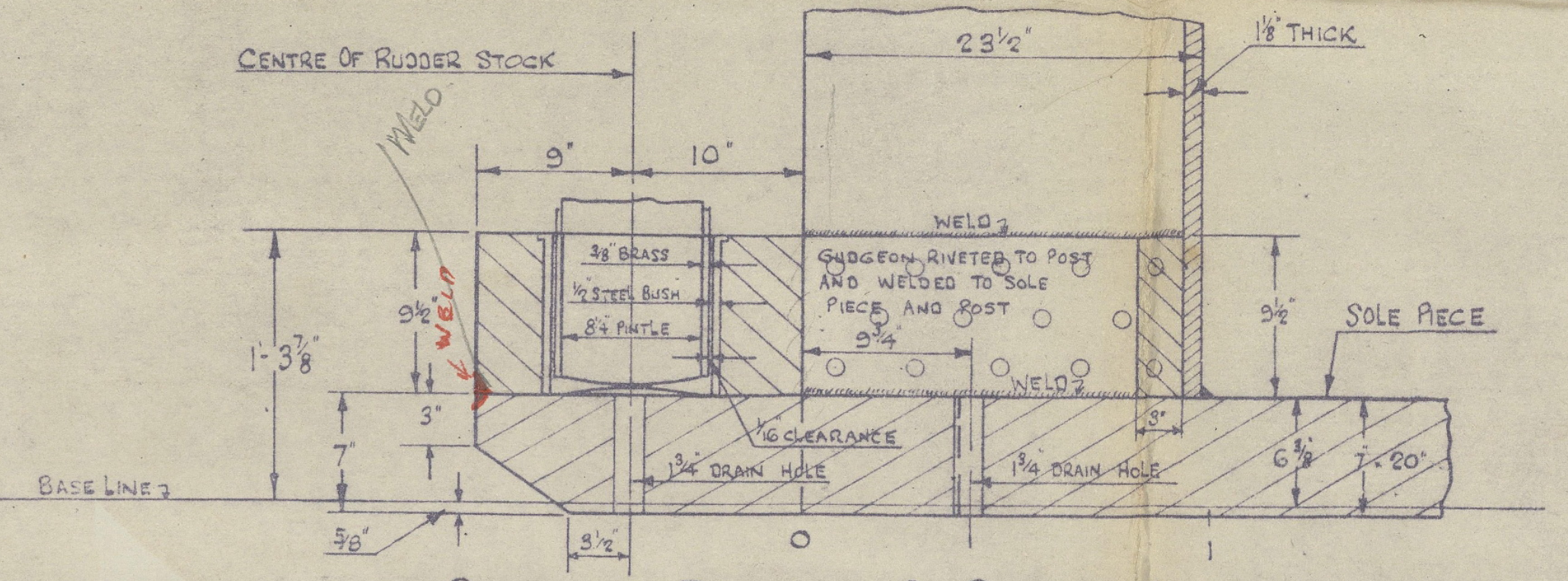


SECTIONAL ELEVATION OF TOP GUDGEON.

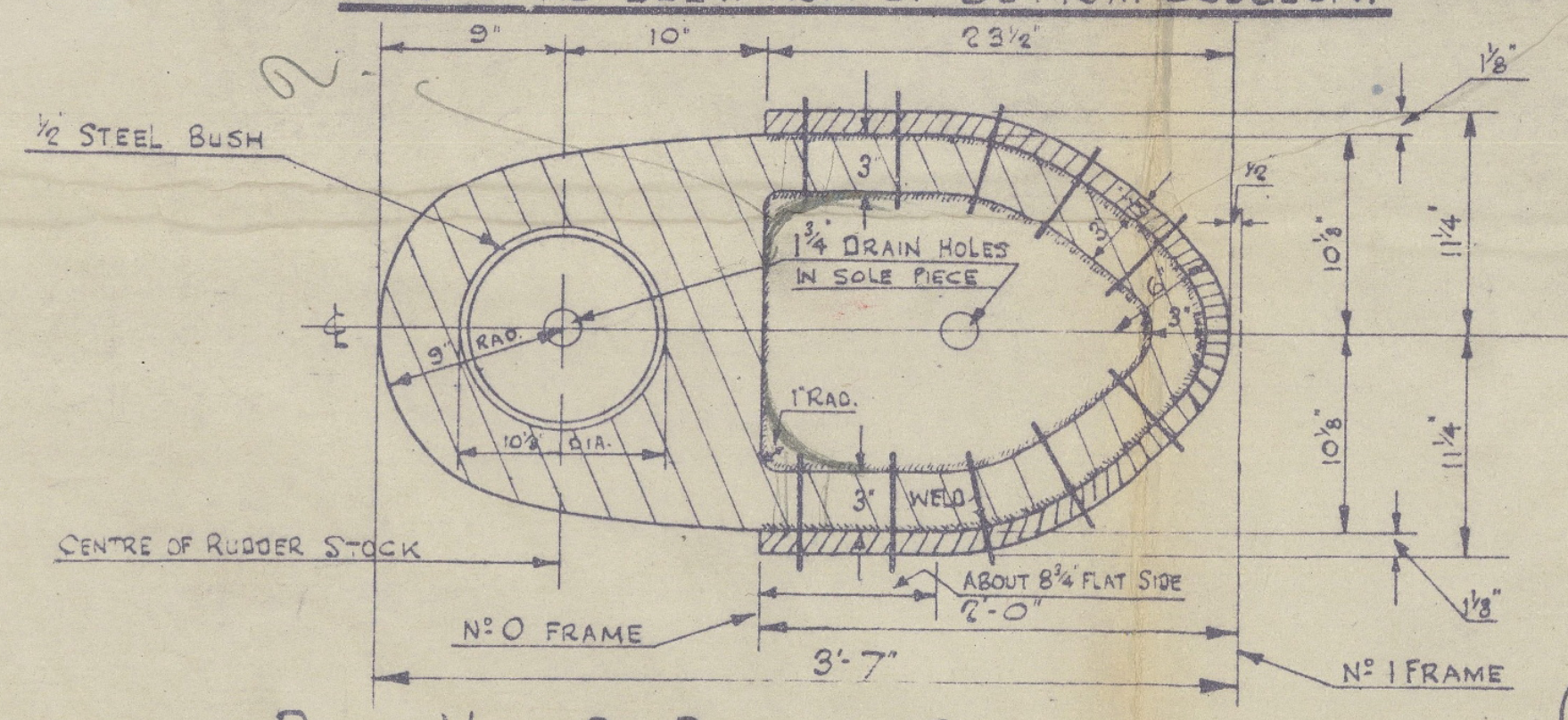


PLAN VIEW OF UPPER GUDGEON.

FOR DETAILS OF PINTLES SEE RUDDER PLAN.

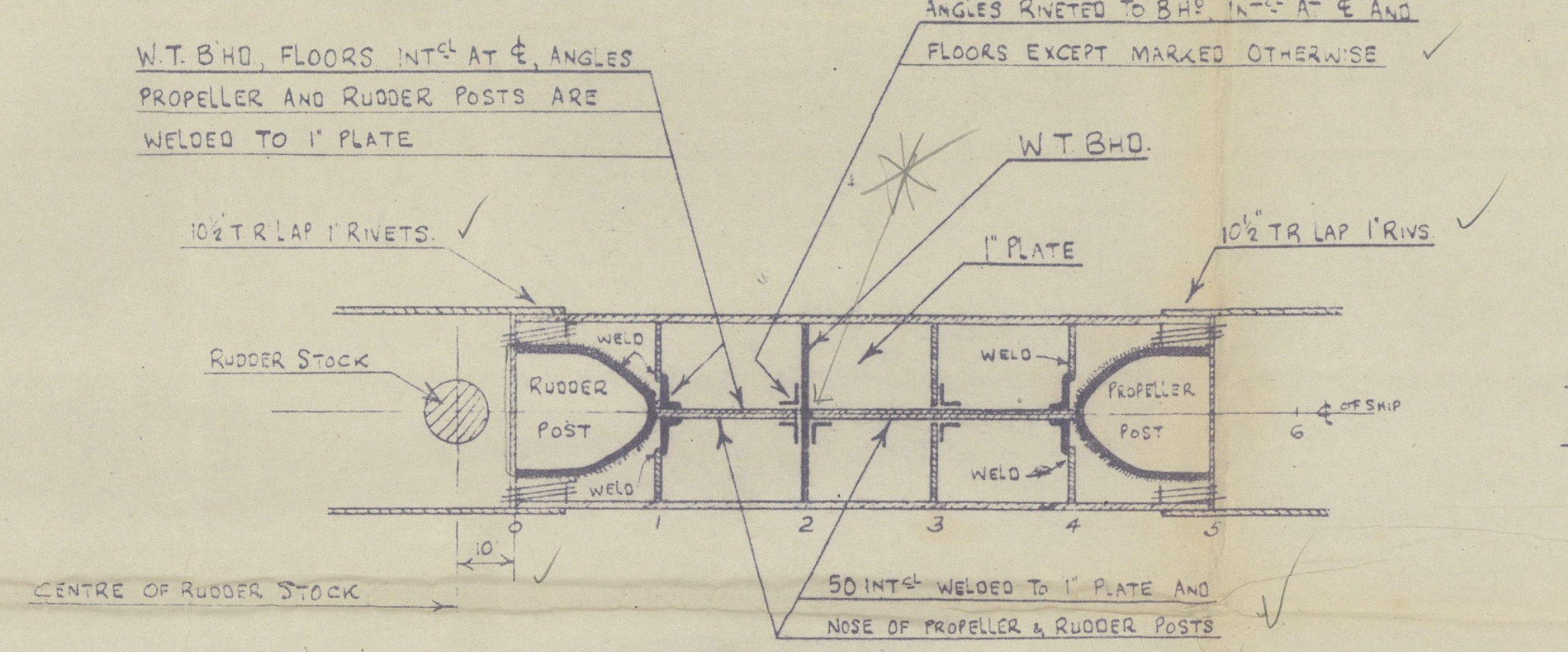


SECTIONAL ELEVATION OF BOTTOM GUDGEON.



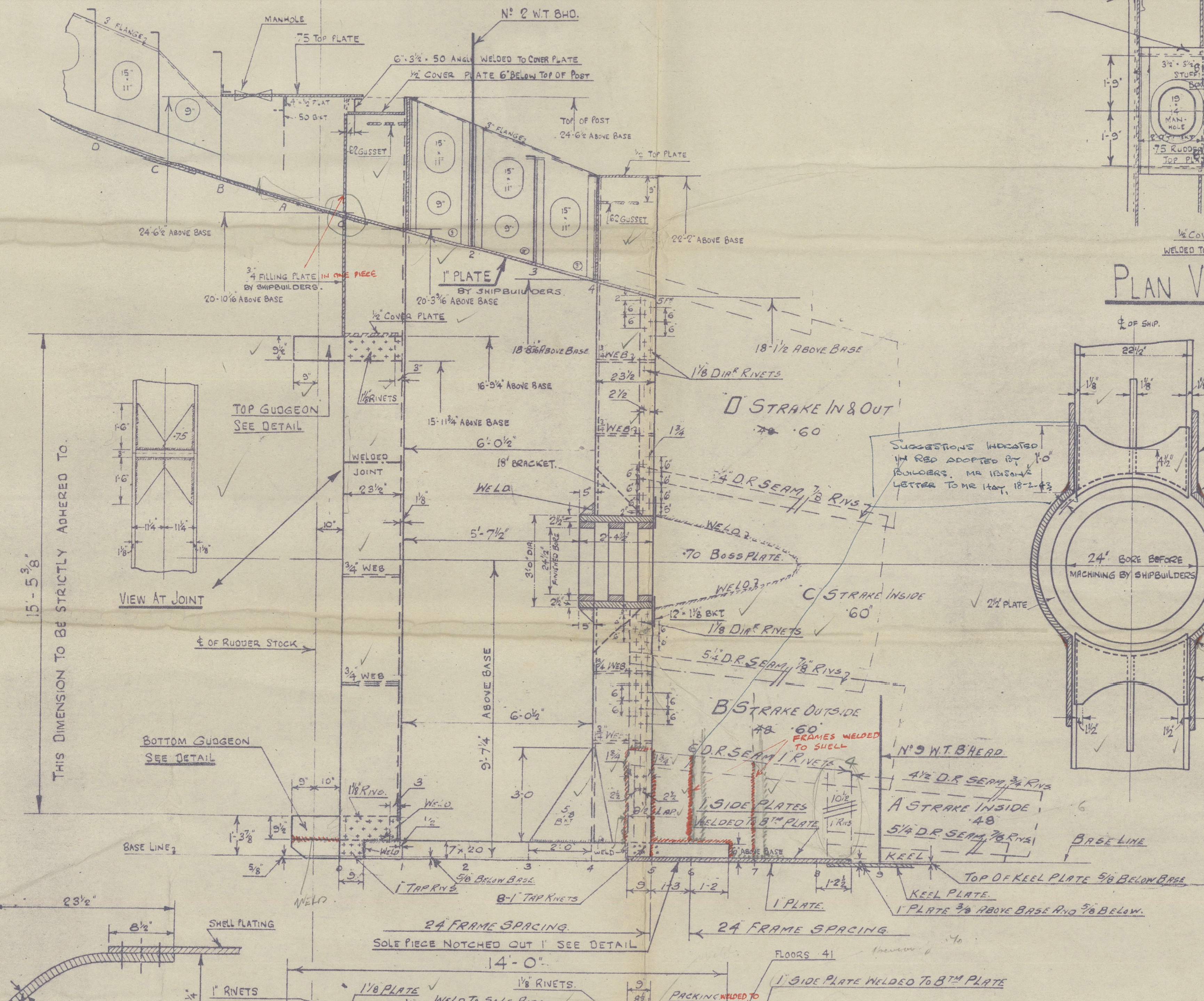
PLAN VIEW OF BOTTOM GUDGEON.

SCALE 1 1/2" = ONE FOOT.



W.T. B'HD, FLOORS INTCL AT ℄, ANGLES PROPELLER AND RUDDER POSTS ARE WELDED TO 1" PLATE
ANGLES RIVETED TO B'HD, INTCL AT ℄ AND FLOORS EXCEPT MARKED OTHERWISE
W.T. BHD.
10 1/2 T.R. LAP 1" RIVETS.
1" PLATE
10 1/2" T.R. LAP 1" RIVS.
RUDDER STOCK
RUDDER POST
PROPELLER POST
WELD
℄ OF SHIP
CENTRE OF RUDDER STOCK
50 INTCL WELDED TO 1" PLATE AND NOSE OF PROPELLER & RUDDER POSTS

PLAN VIEW OF 1" PLATE AT TOP OF STERN FRAME



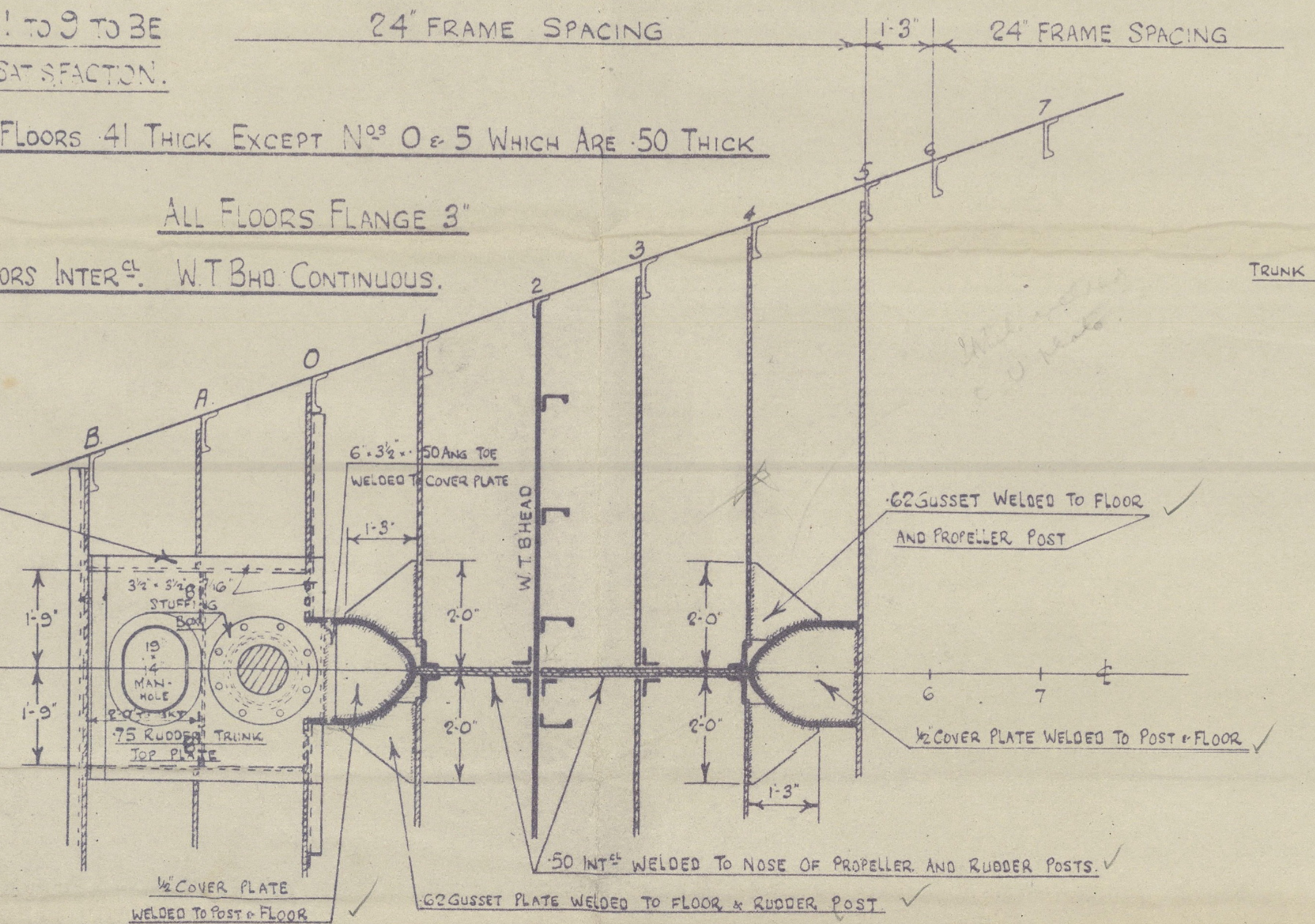
SUGGESTIONS INDICATED IN RED ADOPTED BY BUILDERS. MR IBISON'S LETTER TO MR HAY, 18-2-43

APPROVED ELECTRODES SEC A PAR.1 TO 9 TO BE USED & ALL WELDING TO SURVEYORS SATISFACTION.

FLOORS ·41 THICK EXCEPT Nos O & 5 WHICH ARE ·50 THICK

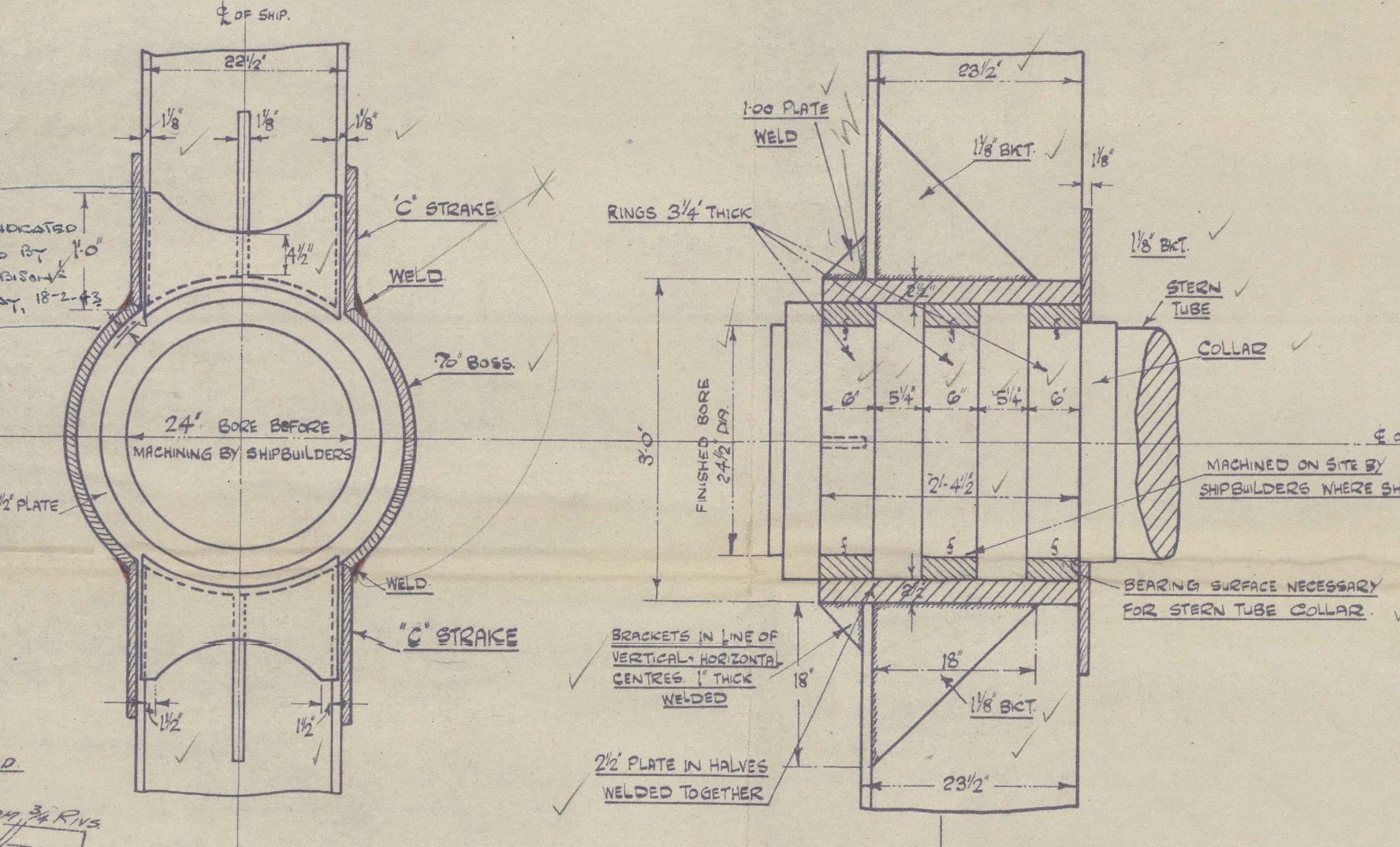
ALL FLOORS FLANGE 3"

FLOORS INTERCL. W.T BHD CONTINUOUS.



24" FRAME SPACING
1'-3"
24" FRAME SPACING
B
A
O
1
2
3
4
5
6
7
6"·3 1/2"·50 ANG TOE WELDED TO COVER PLATE
3 1/2"·5 1/2" STUFFING BOX
19"·14" MANHOLE
·75 RUDDER TRUNK TOP PLATE
W.T. BHEAD
·62 GUSSET WELDED TO FLOOR AND PROPELLER POST
1/2 COVER PLATE WELDED TO POST & FLOOR
1/2" COVER PLATE WELDED TO POST & FLOOR
·50 INTCL WELDED TO NOSE OF PROPELLER AND RUDDER POSTS.
·62 GUSSET PLATE WELDED TO FLOOR & RUDDER POST

PLAN VIEW AT TOP OF W.T. RUDDER TRUNK.



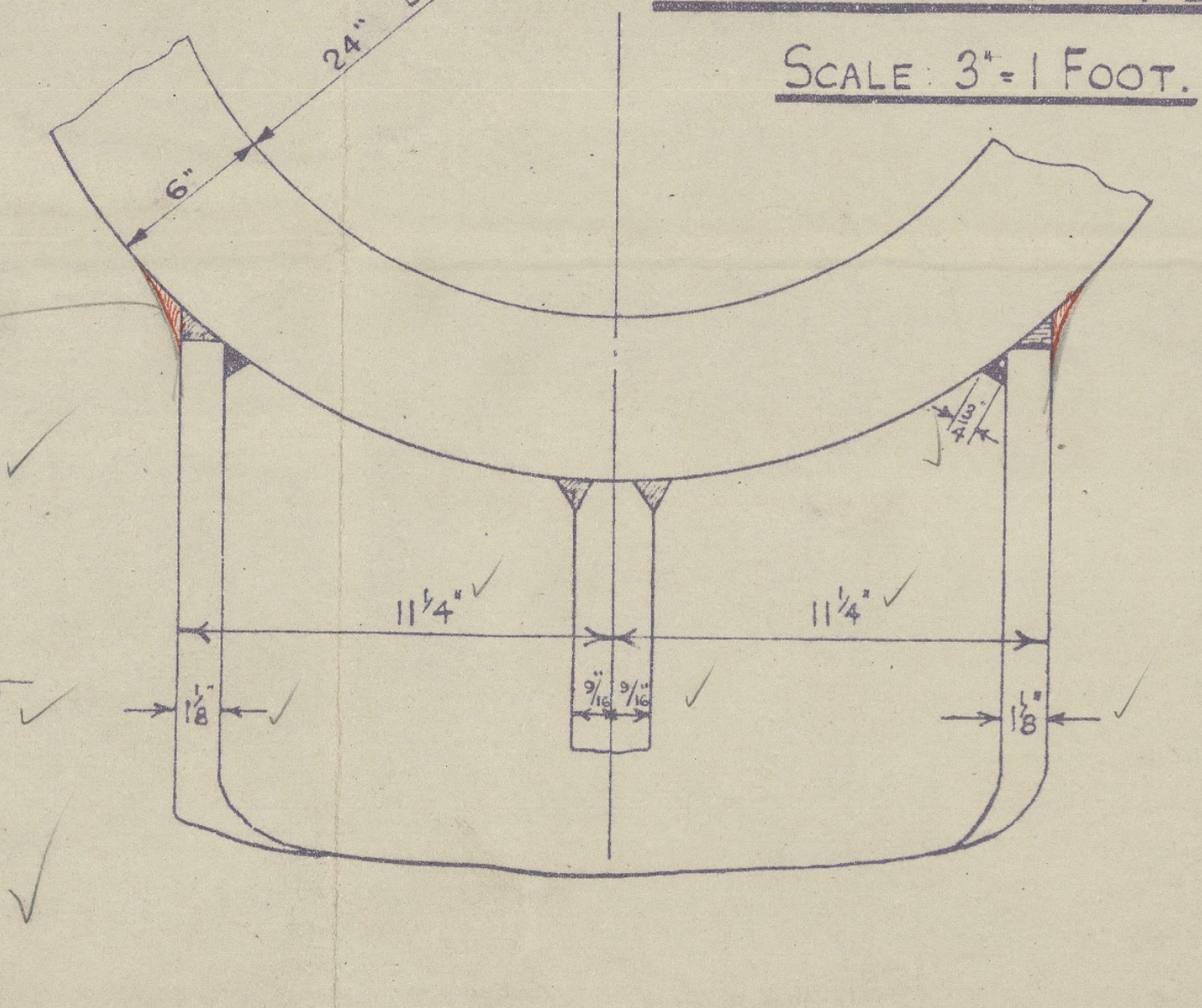
℄ OF SHIP.
22 1/2"
1 1/8"
"C" STRAKE
WELD
·70" BOSS.
24" BORE BEFORE MACHINING BY SHIPBUILDERS
2 1/2" PLATE
1 1/2"
1·00 PLATE
WELD
23 1/2"
1 1/8" BKT.
RINGS 3 1/4" THICK
STERN TUBE
COLLAR
FINISHED BORE 24 1/2" DIA.
3'-0"
2'-4 1/2"
℄ OF SHAFT.
MACHINED ON SITE BY SHIPBUILDERS WHERE SHOWN
9'-7 1/4" ABOVE BASE.
BEARING SURFACE NECESSARY FOR STERN TUBE COLLAR.
BRACKETS IN LINE OF VERTICAL & HORIZONTAL CENTRES. 1" THICK WELDED
2 1/2" PLATE IN HALVES WELDED TOGETHER
18"

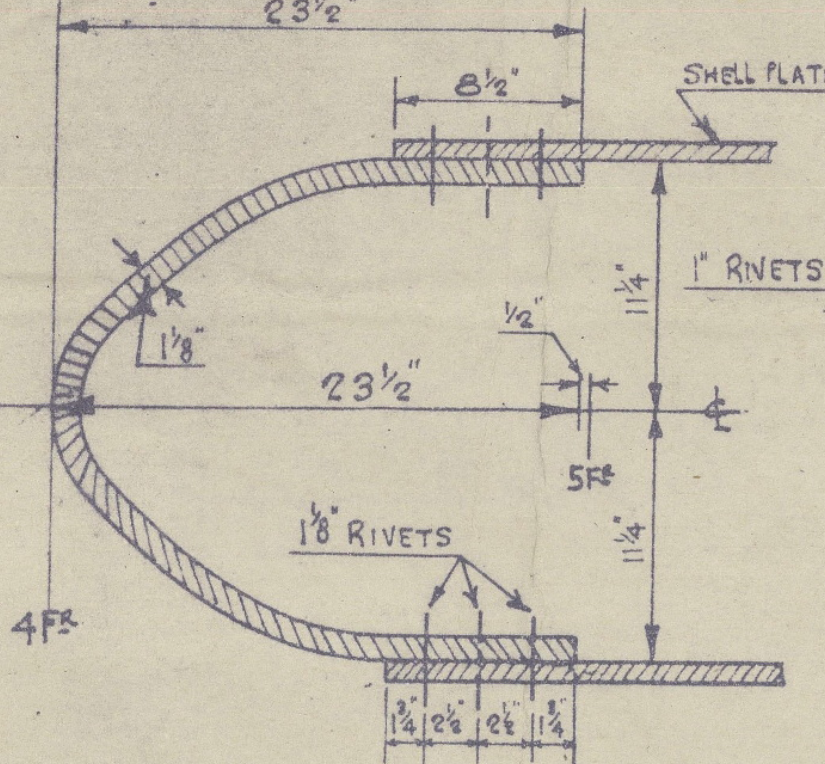
DETAIL OF BUILT UP BOSS.

SCALE 1" = ONE FOOT.

WELDED JOINTS ON BOSS.

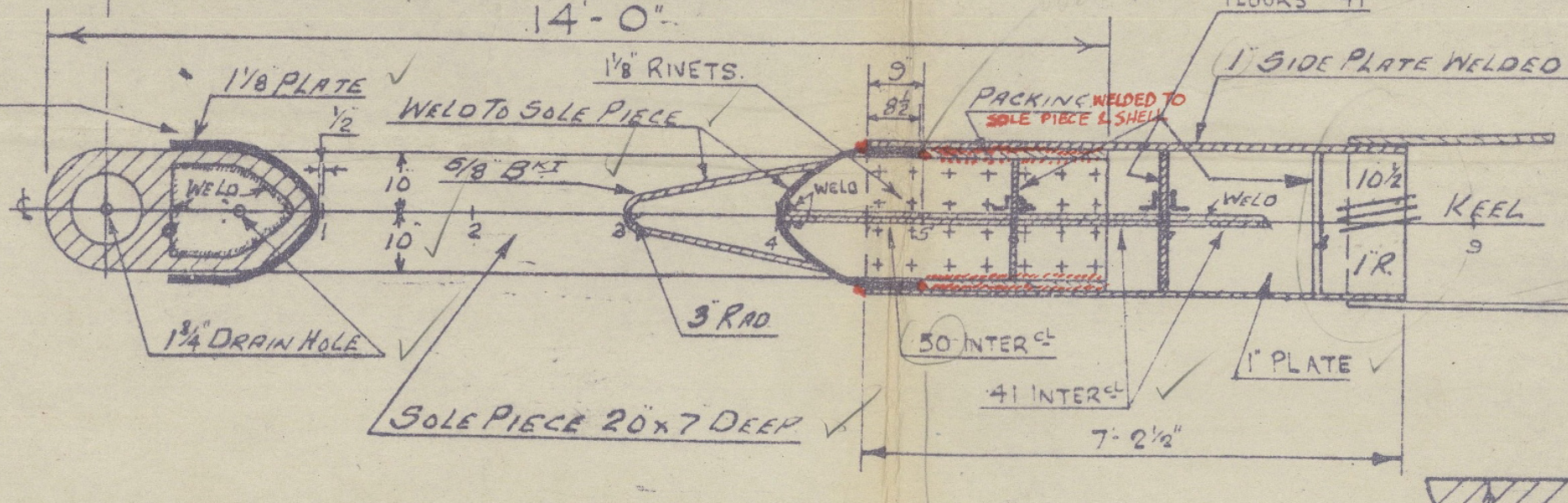
SCALE 3" = 1 FOOT.





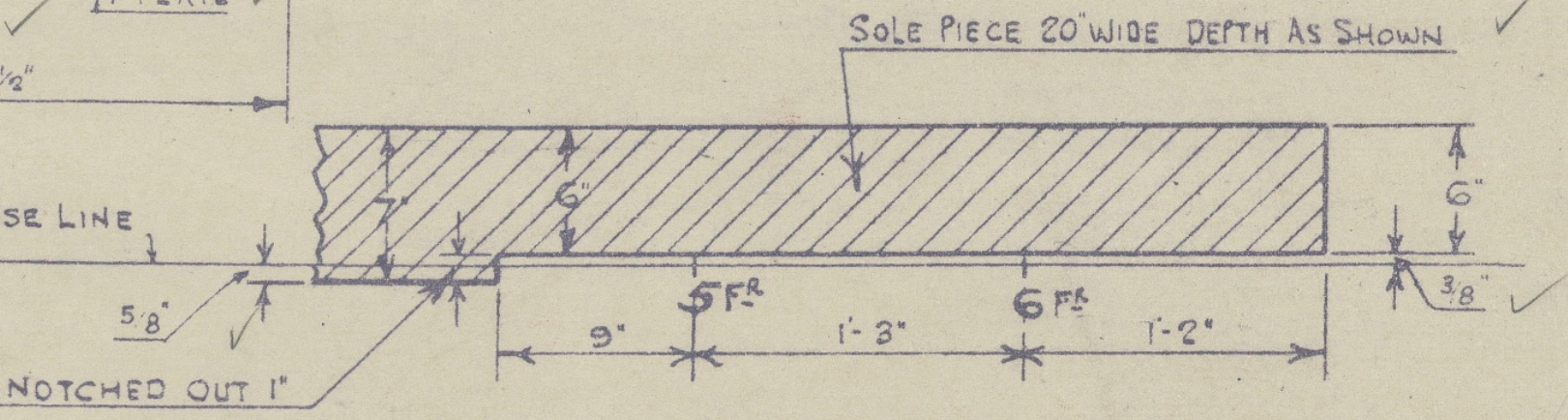
CONNECTN OF SHELL PLATING TO PROPELLER POST.

SCALE 1 1/2" = ONE FOOT.

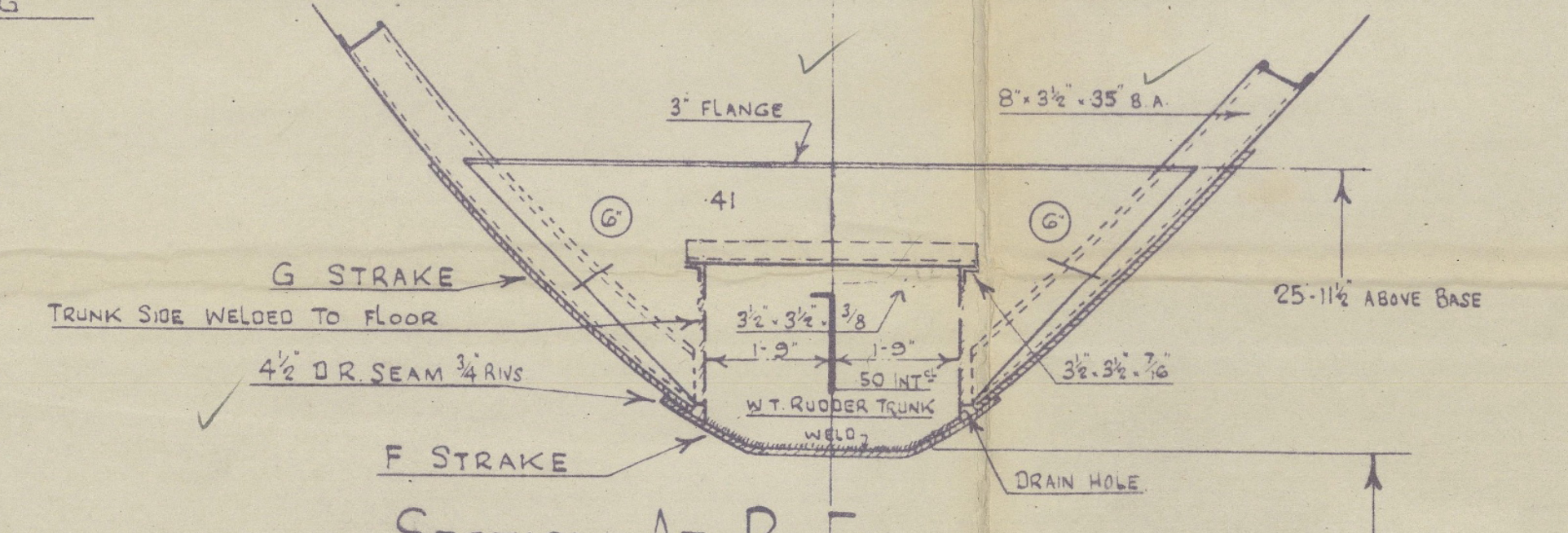


PLAN VIEW AT SOLE PIECE

Previously ·42

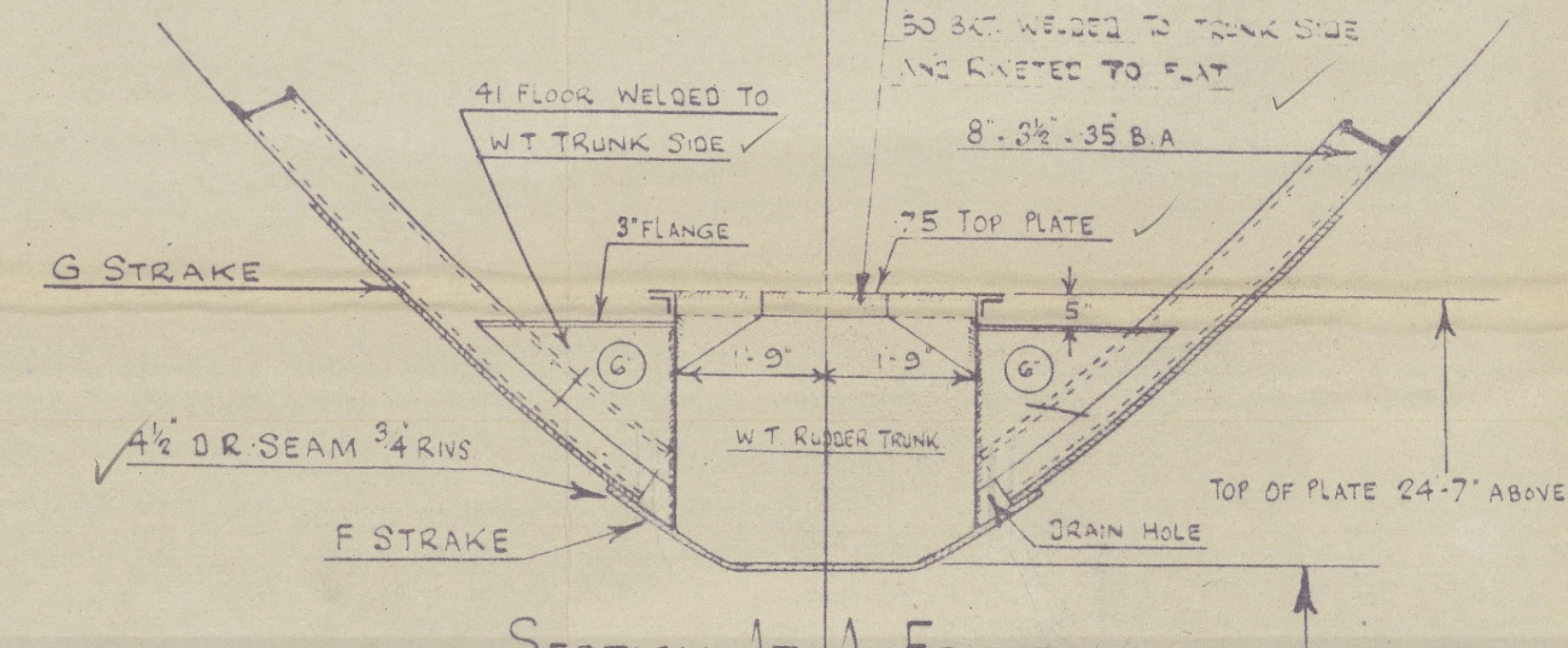


DETAIL SHOWING 1" NOTCH IN SOLE PIECE.



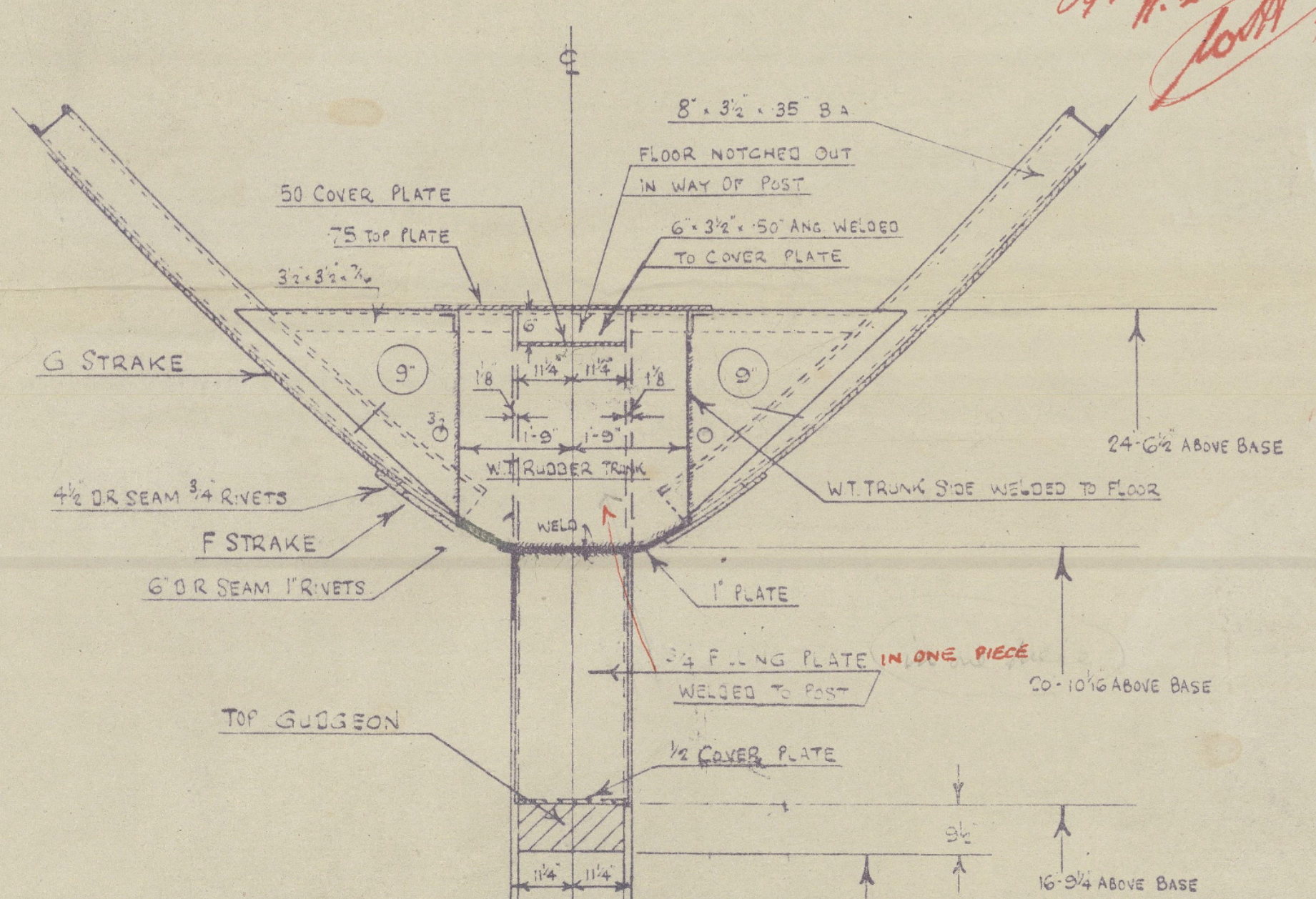
SECTION AT B FRAME.

VIEW LOOKING FORWARD.



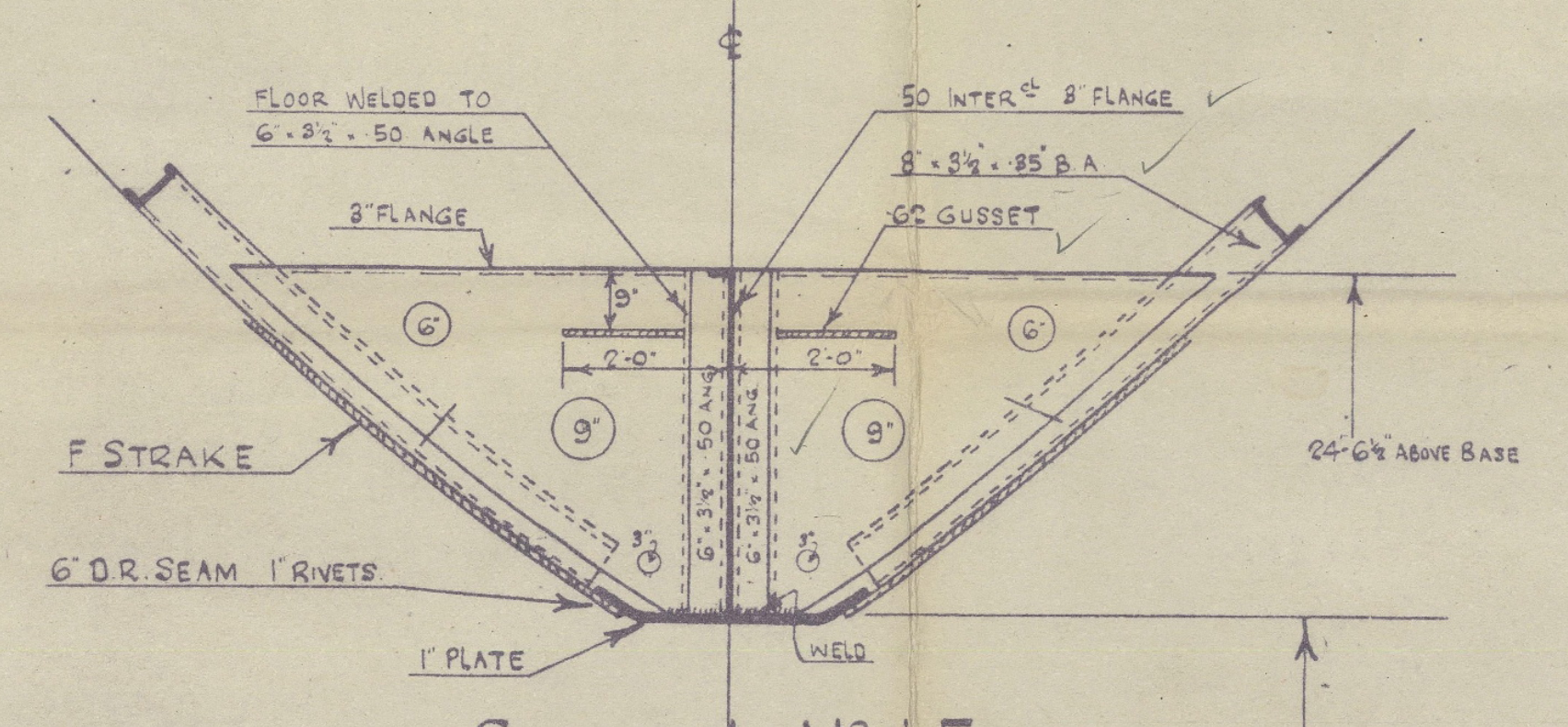
SECTION AT A FRAME.

VIEW LOOKING FORWARD



SECTION AT No O FRAME.

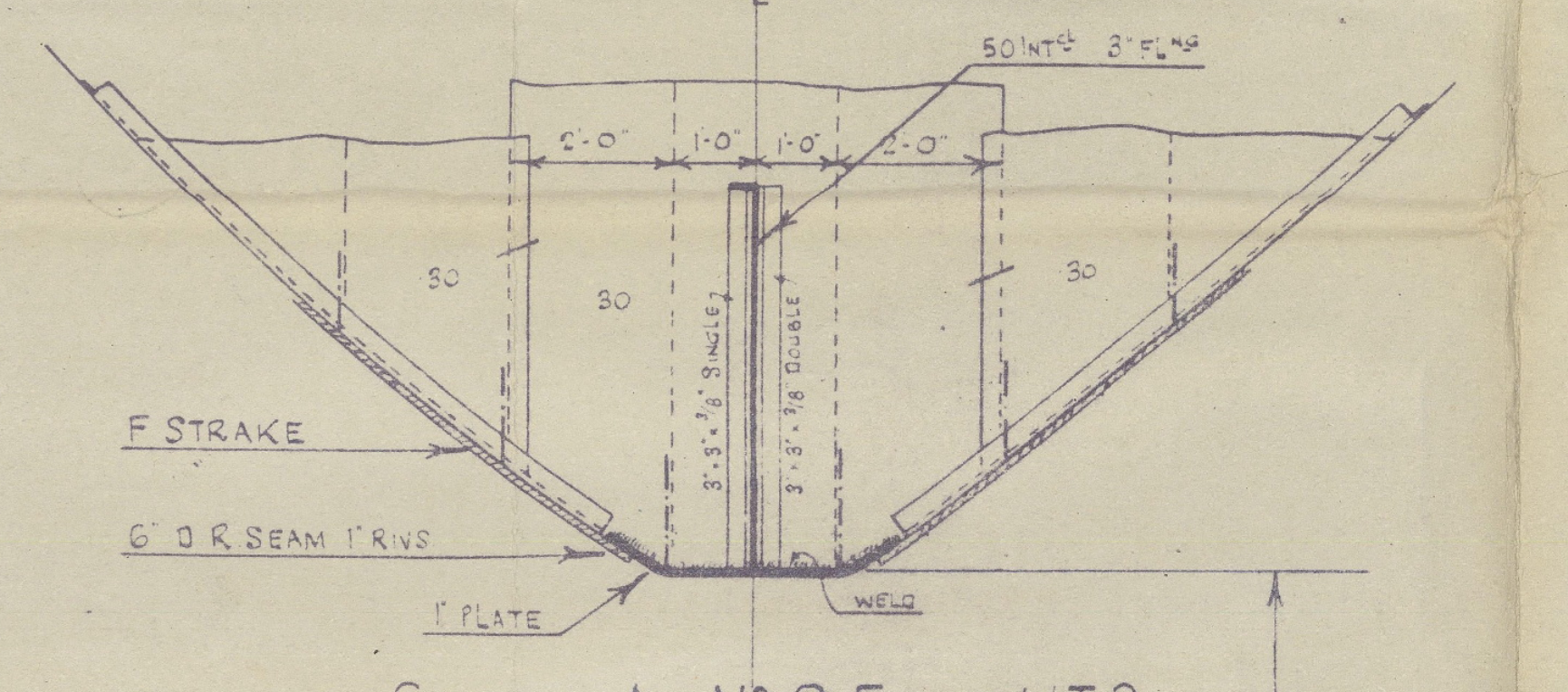
VIEW LOOKING FORWARD.



SECTION AT No 1 FRAME.

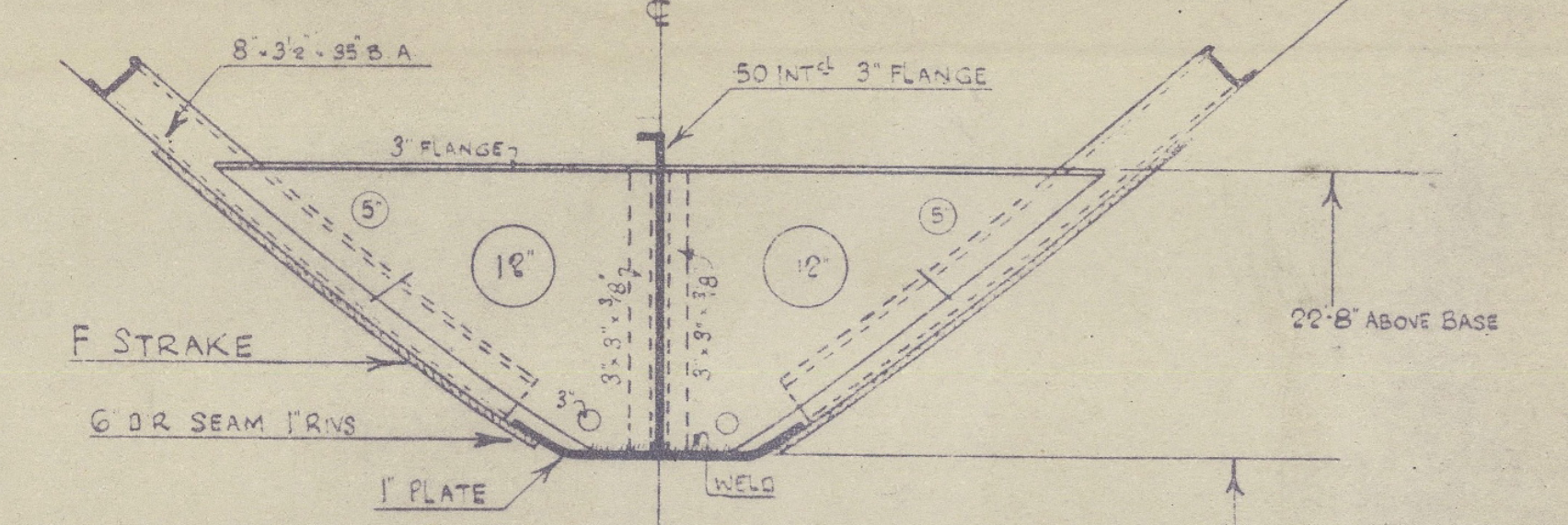
VIEW LOOKING FORWARD.

FOR B'HD SCANTLINGS SEE BHD. PLAN



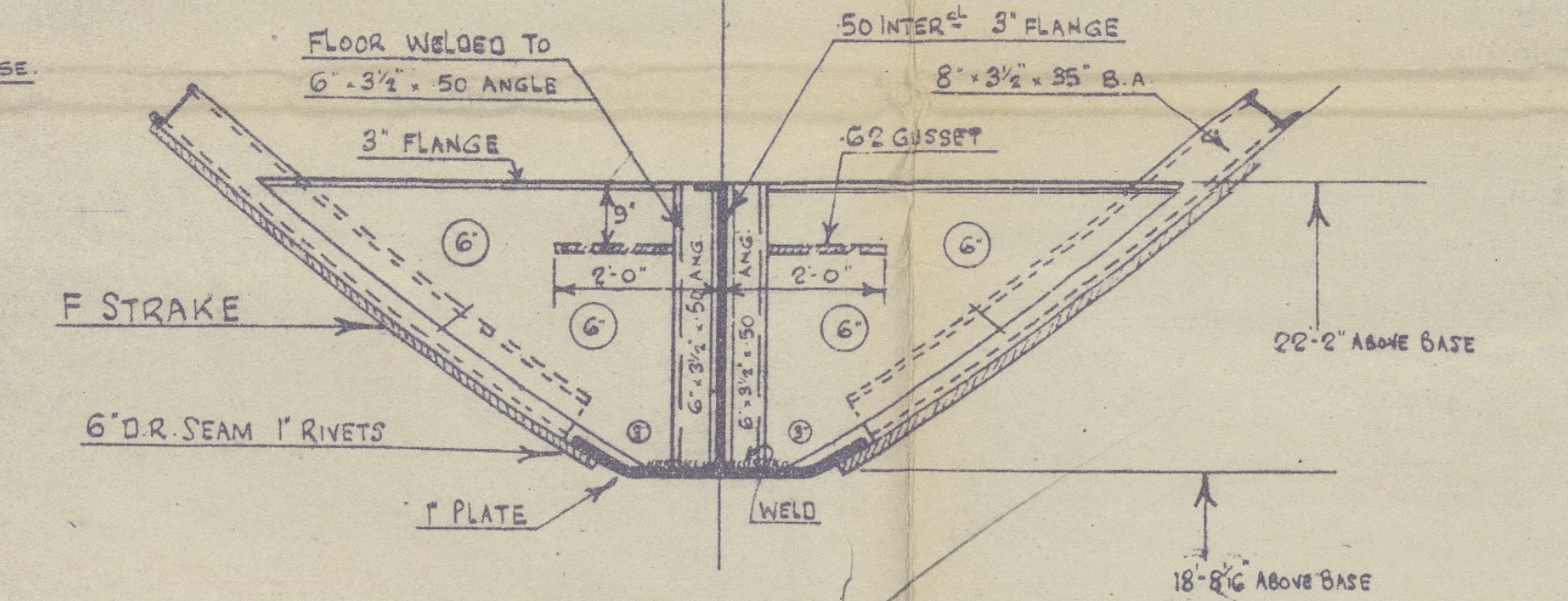
SECTION AT No 2 FRAME W.T BHD.

VIEW LOOKING FORWARD.



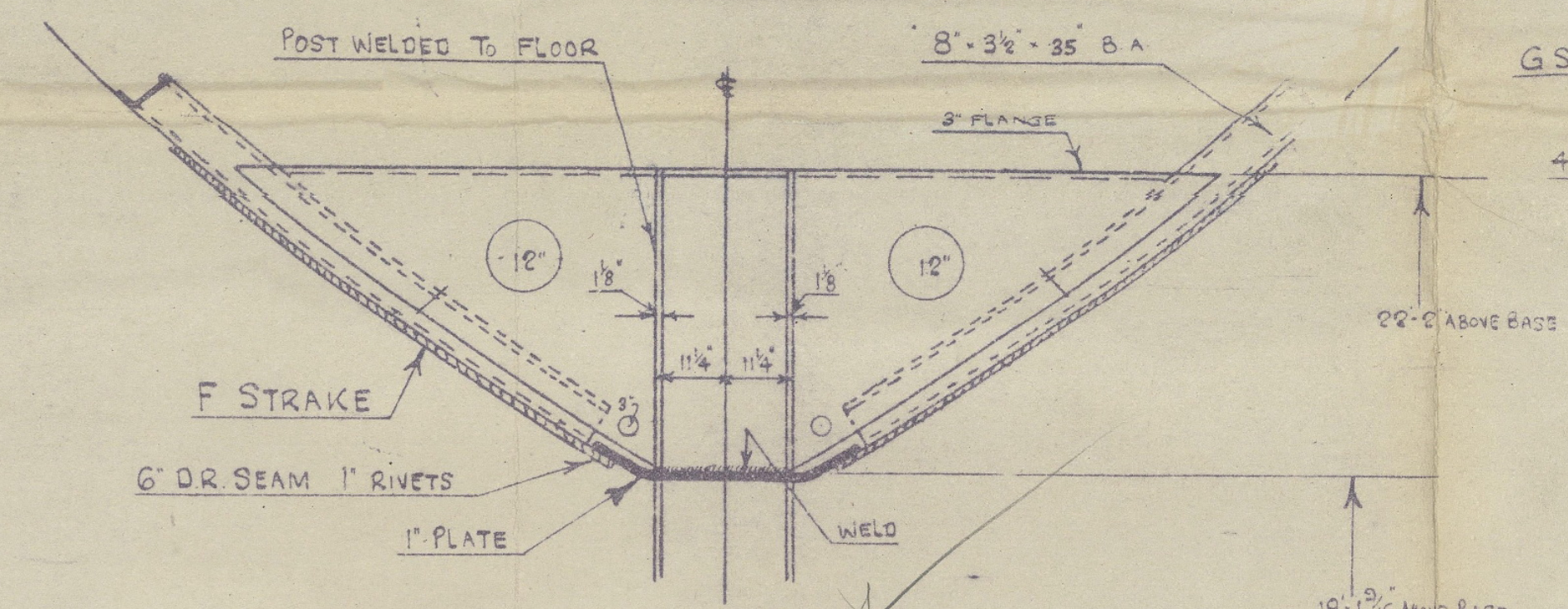
SECTION AT No 3 FRAME.

VIEW LOOKING FORWARD



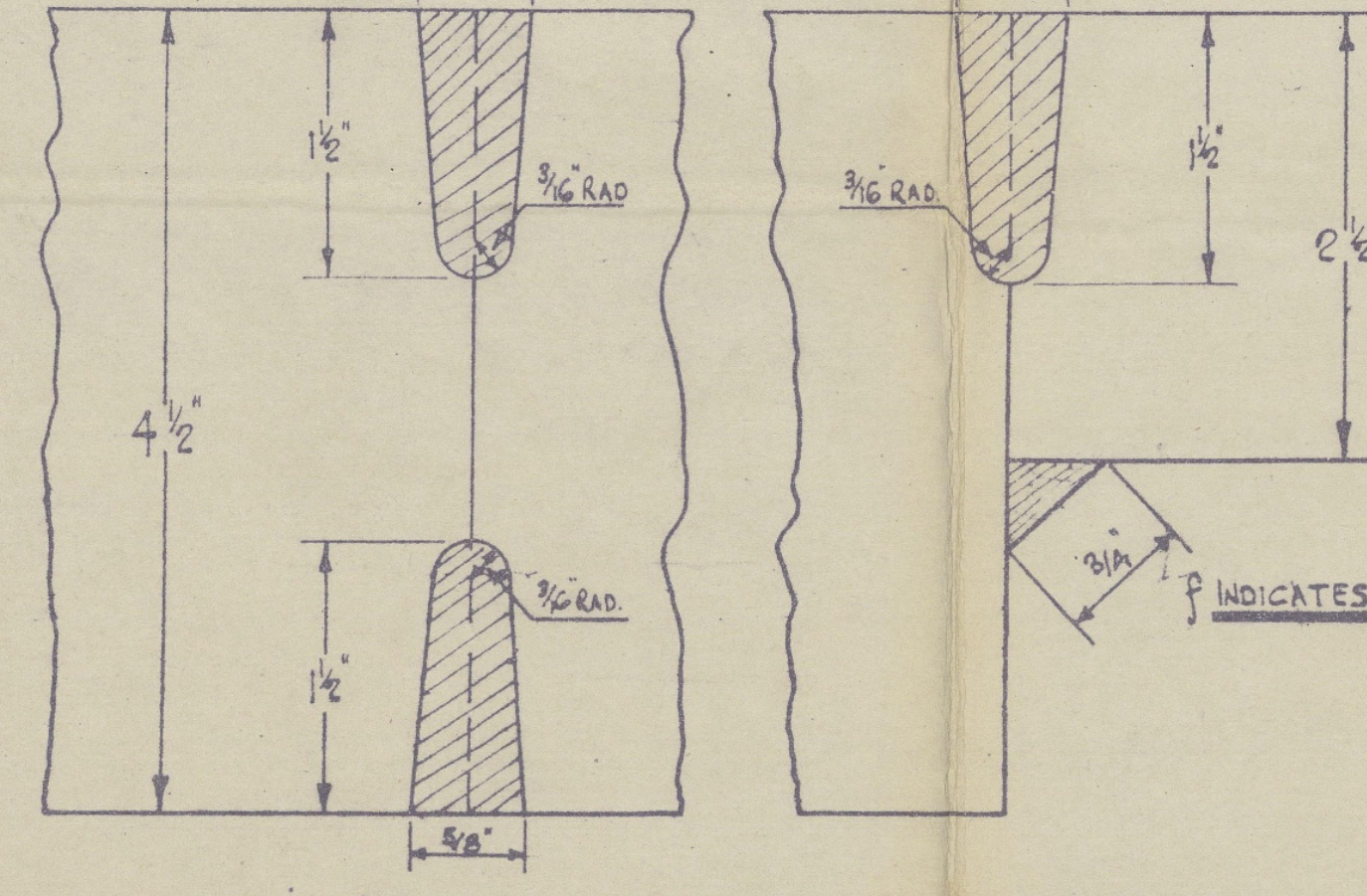
SECTION AT No 4 FRAME.

VIEW LOOKING FORWARD.



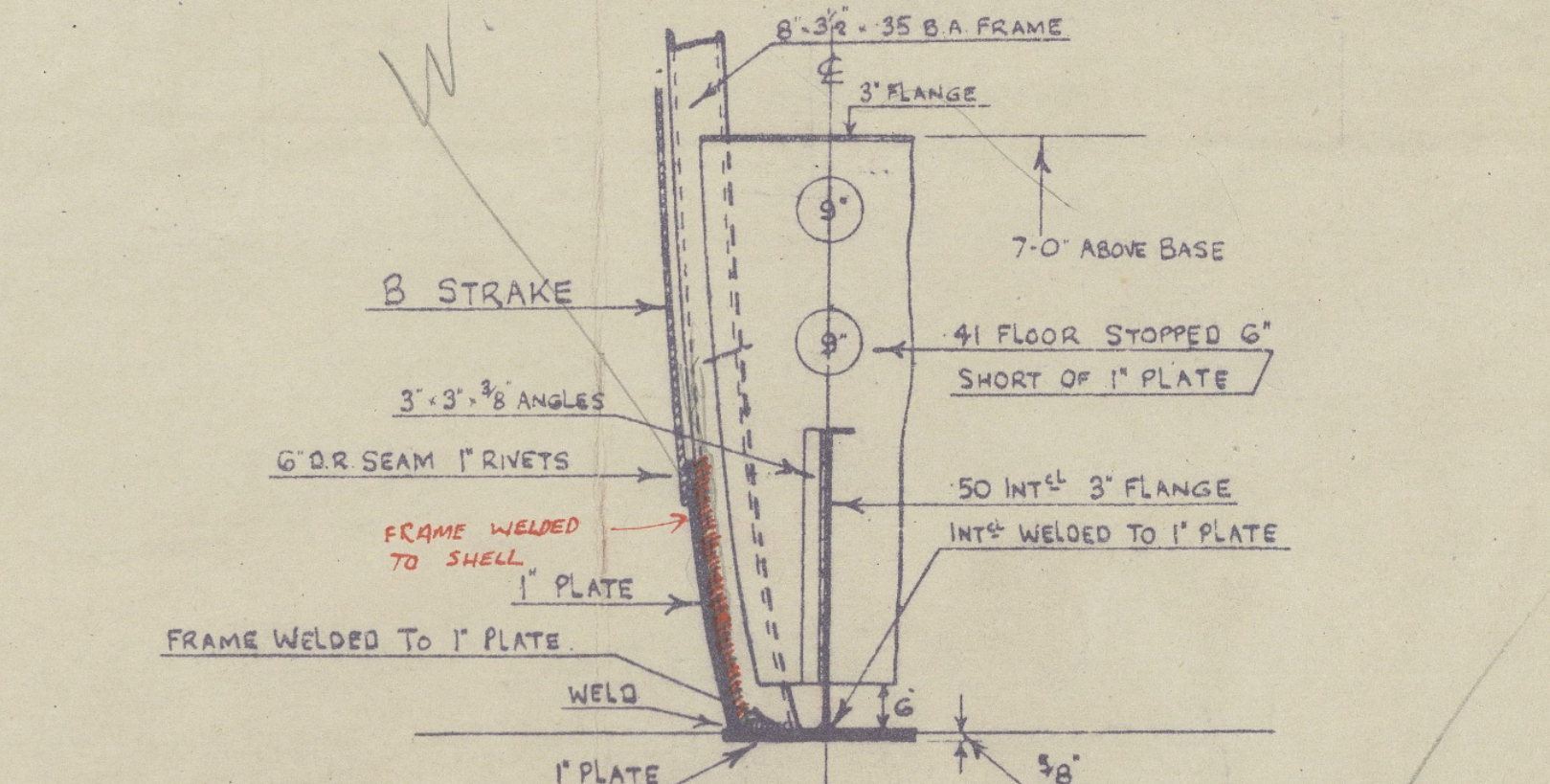
SECTION AT No 5 FRAME.

VIEW LOOKING FORWARD.



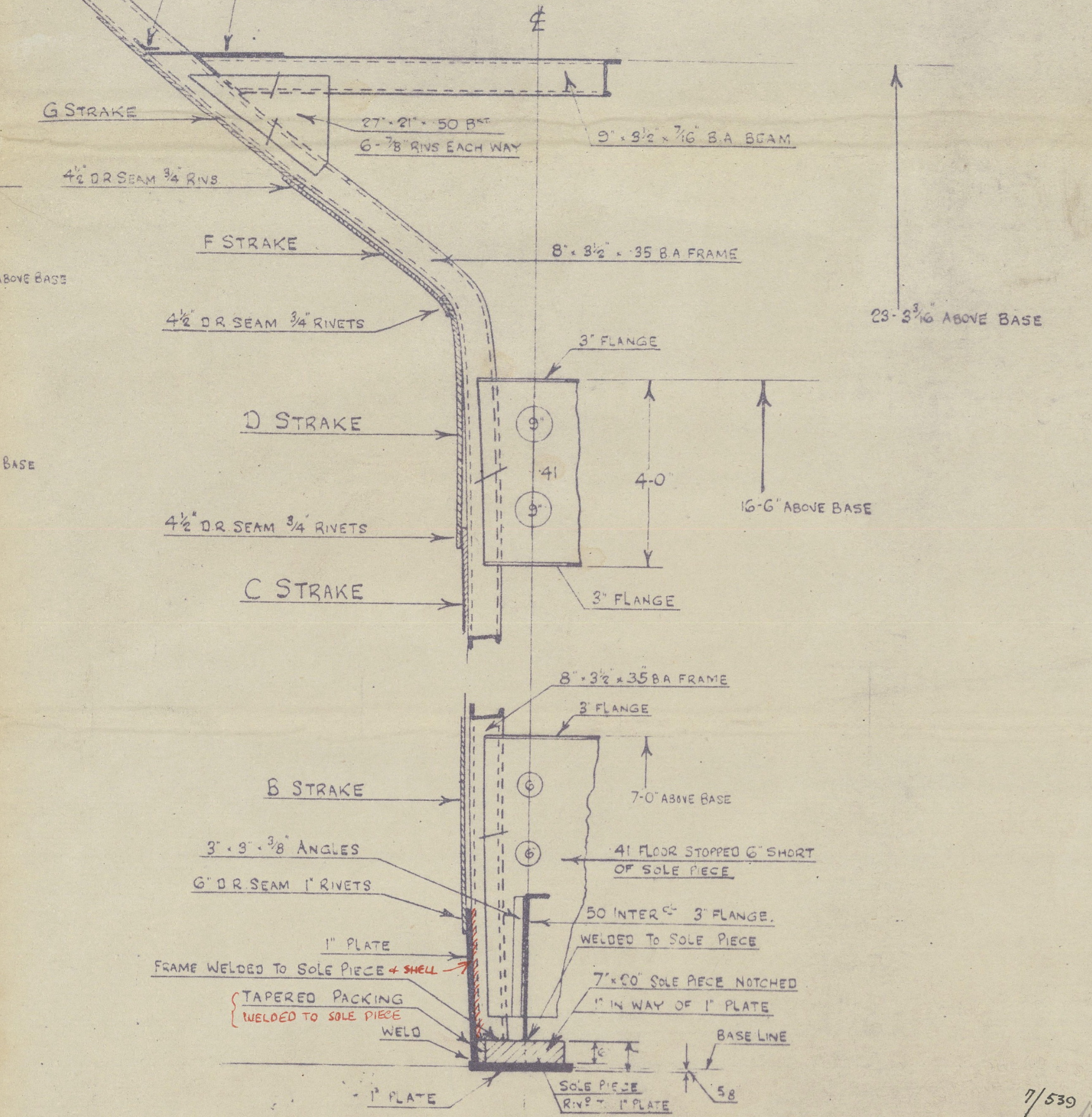
WELDS (TYPES)

FULL SIZE



SECTION AT No 7 FRAME.

VIEW LOOKING FORWARD.



SECTION AT No 6 FRAME.

VIEW LOOKING FORWARD.

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3/2/43

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H

Rudder

J. Readhead & Sons

No. 539. 11.2.43

BURHILL ex EMPIRE GREY

Jag Janani

400/53.29

35.87

8.6

J. Readhead & Sons 539.

Rudder

002743-002749-0007

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT
SUNDERLAND OFFICE
4/2/43.

Nº 539.

RUDDER FRAME.

SCALE $\frac{1}{2}$" = 1 FOOT.
DETAILS $1\frac{1}{2}$" = 1 FOOT.

JOHN READHEAD & SONS, LTD.,
SHIPBUILDERS & ENGINEERS,
WEST DOCKS,
SOUTH SHIELDS.

RUDDER FRAME OF FORGED STEEL.
ARMS SHRUNK ON & KEYED TO MAINPIECE.
BRITISH CORPORATION
TO ~~LLOYDS~~ TEST & SURVEY.
A × D = 125 × 3·75 = 470.
RULE DIA $10\frac{1}{4}$"; INCL. 10% IN AREA = $10\frac{3}{4}$".
11" DIA. FITTED.
SPEED UNDER 12 KNOTS.

Area = 16·146 × 7·5 = 121
$s = \cdot 26 \sqrt[3]{121 \times 3{\cdot}75 \times 12^2}$
$= \cdot 26 \sqrt[3]{65340}$
·26 × 40·2 = 10·5
·255 × 40·2 = $10\frac{1}{4}$

8 FEB 1943
GLASGOW
OF SHIPPING AND AIRCRAFT

Approved
11-2-43

WELDED AS SHOWN WITH SINGLE RIVETING, ✗
OR. DOUBLE RIVETED ✗✗

✗ adopted
✗✗ not adopted
see letter
June 23 1943.

6/539
3/2/43

002743-002749-0007